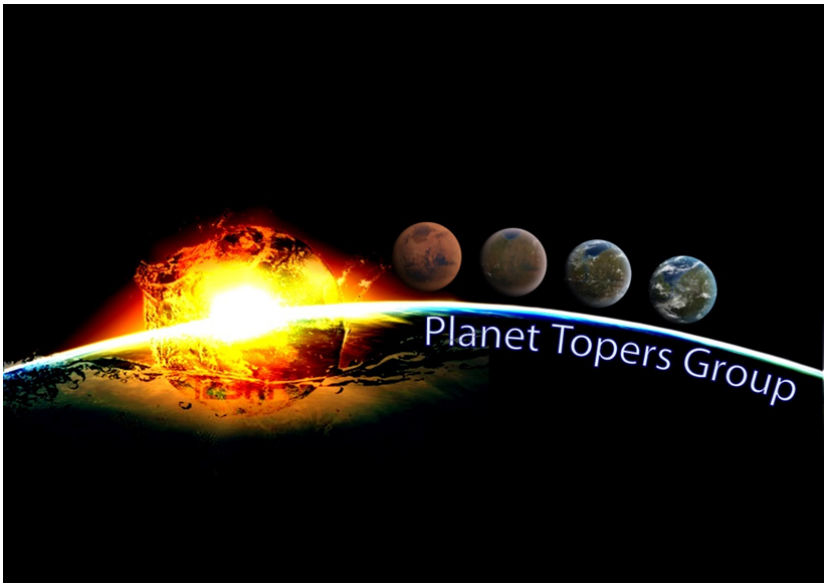
Interuniversity attraction poles - phase VII

Annual Scientific Report
October 2012 – September 2013

P7-15 Planet TOPERS

Planets: Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS



1 Table of Contents

List of abbreviations

Please consider to highlight those you are using or add and highlight if they are not in the list.

AbGradCon	Astrobiology Graduate Conference
ACE	Advanced Composition Explorer
AGU	American Geophysical Union
ALVL	Azimuth Lidort VLidort
AOTF	Acousto-Optical Tunable Filter
ASIMUT-ALVL	Radiative transfer modelling and spectrum retrieval in a non-scattering atmosphere (ASIMUT) and scattering atmosphere ((V)LIDORT)
BX	BoXcar
CHUR	CHondritic Uniform Reservoir
GAIA	Name for mantle convection code developed at DLR
GSA	Geological Society of America Annual Meeting
BELSPO	Belgian Science Policy
BISA	Belgian Institute for Space Aeronomy
CLUPI	CLose-UP Photograph Imager
CHIC	Code for Habitability, Interior and Crust
CNES	Centre National d'Etudes Spatiales
Co-I	Co-Investigator
Co-PI	Co- Principal Scientist
COST	European Cooperation in Science and Technology
DLR	Deutsche Zentrum für Luft- und Raumfahrt
EANA	European Astrobiology Network Association
EC	European Commission
EDM	ExoMars Entry Descend Module
EGU	European Geoscience Union
EMTGO	ExoMars Trace Gas Orbiter
EPSC	European Planetary Science Congress
ERC	European Research Council
ESA	European Space Agency
EU	European Union
EUV	Extreme Ultraviolet
FIB	Focused Ion Beam
FNRS	Fonds National de la Recherche Scientifique
FRIA	Fonds pour la formation à la Recherche dans l'Industrie et dans l'Agriculture
FRS	Fonds de la Recherche Scientifique
FTS	Fourier Transform Spectrometer
FUNDP	Facultés Universitaires Notre-Dame de la Paix
Ga	Giga-annum (billion years)
GCM	General/Global Circulation Model
GEM	Global Environmental Multiscale
GSA	Geological Society of America
HITRAN	HIgh-resolution TRANsmission molecular absorption)
HR	High Resolution
HRTEM	High Resolution Transmission Electron Microscopy
H-type	High iron abundance ordinary chondrite
IAG	International Association of Geodesy
IAGA	International Association of Geomagnetism and Aeronomy
IAP	Interuniversity Attraction Pole
IASI	Infrared Atmospheric Sounding Interferometer

IAU	International Astronomical Union
ICDP	International Continental Drilling Project/program
ICP	Inductively Coupled Plasma
ICP-MS	Inductively Coupled Plasma Mass Spectrometry/Spectrometer
JUICE	JUpiter ICy moons Explorer;
IM	Instrument Manager
IMCCE	Institut de Mécanique Céleste et de Calculs des Ephémérides
InSIGHT	Mars Interior exploration using Seismic Investigations, Geodesy, and Heat Transport
IR	InfraRed
ISRO	Indian Space Research Organization
ISSI	International Space Science Institute
KOM	Kick-Off Meeting
LA	Laser Ablation
LHB	Late Heavy Bombardment
LIDORT	Linearized Discrete Ordinate Radiative Transfer
LPSC	Lunar and Planetary Science Conference
Ma	Mega-annum (million years)
MAGIE	Mars Atmospheric Global Imaging Experiment
MAVEN	Mars Atmosphere and Volatile EvolutioN
MC	Multi-Collector
MC-ICP-MS	Multi-Collector -Inductively Coupled Plasma - Mass Spectrometry/Spectrometer
MER	Mars Exploration Rover
MEX	Mars Express
MGS	Mars Global Surveyor
MIR	Modular IR spectrometer
MRO	Mars Reconnaissance Orbiter
MS	Mass Spectrometry
MSL	Mars Science Laboratory
NASA	National Aeronautics and Space Administration
NEXAFS	Near Edge X-Ray Absorption Fluorescence Synchrotron
NIPR	National Institute of Polar Research
NOMAD	Nadir and Occultation for MArs Discovery
NMI	Non-Magmatic Iron
OC	Ordinary Chondrite
ODY	Mars Odyssey
PE	Princess Elizabeth
PI	Principle Investigator
PLATO	PLAnetary Transits and Oscillations of stars
PS	Participating Scientist
REE	Rare Earth Elements
ROB	Royal Observatory of Belgium
ROSINA	ROsetta Spectrometer for Ion and Neutral Analysis
SAMBA	Search and Study of Antarctica Meteorites
SEM	Scanning Electron Microscopy
SIMS	Secondary Ion Mass Spectrometry
SNC	Shergottite, Nakhlite, and Chassignite
SOIR	Solar Occultation in the Infra-Red
SPICAM	Spectroscopy for Investigation of Characteristics of the Atmosphere of Mars
SPICAV	Spectroscopy for Investigation of Characteristics of the Atmosphere of Venus

SSAC	Solar System Advisory Committee
SWIR	Short-Wavelength InfraRed
SZA	Solar Zenith Angle
TEM	Transmission Electron Microscopy
TGO	Trace Gas Orbiter
TIR	Thermal Infrared
TIRVIM	Thermal Infrared V-shape Interferometer Mounting
TOPERS	Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS
TTG	Tonalite-Trondhjemite-Granodiorite)
UCL	Université Catholique de Louvain
UGent	Universiteit Gent
ULB	Université Libre de Bruxelles
ULg	Université de Liège
UPB	Ureilite Parent Body
UV	Ultraviolet
VEX	Venus Express
VMR	Volume Mixing Ratio
VUB	Vrije Universiteit Brussel
WG	Working Group
WP	Work Package
XANES	X-ray Absorption Near Edge Structure

1. General information:

Composition of the network, the name of all the partners of the network with their institution and their research unit.

Coordinator: Partner 1 (**P1**) Name: Dehant Véronique Institution: Royal Observatory of Belgium Institution's abbreviation: ROB
Partner 2 (**P2**) Name: Vandaele Ann Carine Institution: Belgian Institute for Space Aeronomy Institution's abbreviation: BISA
Partner 3 (**P3**) Name: Claeys Philippe Institution: Vrije Universiteit Brussel Institution's abbreviation: VUB
Partner 4 (**P4**) Name: Vanhaecke Frank Institution: Universiteit Gent Institution's abbreviation: UGent
Partner 5 (**P5**) Name: Javaux Emmanuelle Institution: Université de Liège Institution's abbreviation: ULg
Partner 6 (**P6**) Name: Debaille Vinciane Institution: Université Libre de Bruxelles Institution's abbreviation: ULB
International Partner (**INT**) Name: Spohn Tilman Institution: Deutsche Zentrum für Luft- und Raumfahrt Berlin Institution's abbreviation: DLR Country: Germany

2. Introduction:

Brief overview of the main scientific results

See list of publications; the full report is only accessible for IUAP Members.

Most important activities of networking

Creation of a Scientific Council

The Planet TOPERS have created their Scientific council in addition to the Executive Board.

Activities organized as part of the IAP network

Planet TOPERS members have organized their kick-off meeting, a meeting of the Consortium as part of the Astrobiology FNRS Contact Group, and another meeting of the Consortium as part of the Helmholtz Alliance annual meeting organized by our international partner.

Planet TOPERS members attended several international meetings to present the work of the Consortium, and establish its scientific presence within the community.

International radiancy

Meeting Organization

Planet TOPERS members were responsible for the organization of 3 sessions at EGU (European Geosciences Union), participated in the organization of the Astrobiology Graduate Conference (AbGradCon) 2013 meeting, have organized a complete session at EPSC.

Planet TOPERS members succeeded to obtain the creation of several ISSI International Teams and there are 5 ISSI workshops where Planet TOPERS members are involved.

Meteorite Search in Antarctica

The VUB-ULB team composed of Planet TOPERS members searched the blue ice fields around PE (Princess Elizabeth) station in Antarctica for meteorites. Their trip was reported on a blog (http://antarctica.oma.be/) that had high attendees as shown by the statistics.

Medals, Prizes, Awards

Several Members of Planet TOPERS have received Prizes or Awards:

- Elodie Gloesener: ODISSEA Prize and Wallonie Espace Prize
- Vinciane Debaille: Prize Baron van Ertborn 2012 of the Royal Academy of Belgium
- Attilio Rivoldini: won a competition for the Class of Sciences of the Belgian Royal Academy
- Tilman Spohn: 2013 Runcorn-Florensky Medal
- Philippe Claeys: Prize Adolphe Wetrens 2013 of the Belgian Royal Academy
- Pascal Rosenblatt: Prize Vanderlinden 2013 of the Belgian Royal
- Emmanuelle Javaux: Francqui Research Professorship 2013-2017.
- Frank Vanhaecke: Fellow of the Society for Applied Spectroscopy

Website and Ftp

The planet TOPERS have a website at http://planet-topers.oma.be/ and a private ftp site at https://planet-topers.oma.be/index_library.php where all information necessary for the group is provided.

Outreach

The planet TOPERS have, in addition to the website and the blog on Antarctica, several press releases, TV interviews, radio interviews, paper press, and have given several public conferences.

Other/New contracts since IAP

Two Planet TOPERS Members have obtained an ERC Starting Grants from the European

Research Council.

One Planet TOPERS Member has obtained a VUB Strategic Research Grant on Tracers of Past and Present Global Changes.

Planet TOPERS Members have obtained a budget for networking with Russian science institutions, as well as with India.

We have a new Planet TOPERS member: Dr. Bernard Charlier. Bernard who got a 'Back to Belgium Grant' of the Federal Science Policy to rejoin our research network.

Several EU projects submitted by Planet TOPERS (BISA) members have been accepted.

Planet TOPERS Members are involved in EU COST action ORIGINS (Origins and Evolution of Life on Earth and in the Universe).

One Planet TOPERS Member (BISA) has obtained the SIROCCO project in answer to the ESA AO/1-7019/12/NL/AF: Synergetic SWIR and IR retrievals of near-surface concentrations of CH4 and CO for Earth and Planetary atmospheres.

Planet TOPERS do also participate into several ISSI workshops as mentioned in the paragraph on Meeting Organization.

Two Planet TOPERS Members have obtained an FNRS-FRFC on Extensive study of the orbital dynamics of extrasolar systems to improve the habitability definition (name: ExtraOrDynHa) and an FNRS-FRFC on laboratory and model comparison for spectroscopy calibration and comparative study of atmospheric erosion. One Planet TOPERS Member does also participate in an FNRS-New equipment on analytical/isotopic analysis.

Two Planet TOPERS Members have obtained FWO funding (2013-2016) for the development of Lithium isotope as tracer of planetary processes.

Other funding are also provided below.

Other/New International Responsibilities since IAP

Ozgur Karatekin (ROB) is President of Planetary Science Section of EGU.

Véronique Dehant (ROB) is Member of the SSAC.

New international responsibilities (PI, co-PI, Co-I, PS, IM levels) in present and future missions.

Planet TOPERS in almost all presently active ESA missions and many NASA missions in Solar System (ESA: MEX, VEX, Cassini-Huygens in the Saturnian system, Rosetta (to comet 67P/Churyumov–Gerasimenko), Cluster (quartet of satellites as a space plasma microscope); NASA: MGS, Pathfinder Rover on Mars, ODY, MRO, MER, MSL, ACE);

Planet TOPERS in almost all future ESA missions and many NASA missions in Solar System (ESA: ExoMars (TGO, EDM, Rover), BepiColombo to Mercury, JUICE; NASA: MAVEN, InSIGHT, MSL2020);

3. Description of the research completed

The work of the Planet TOPERS Consortium has been organized in WPs and the first results are not reproduced here. They are available for the IUAP Members via the private ftp of the group.

WP 1: Internal Geophysics and Interaction with Atmosphere

WP 2: Atmosphere and interaction with surface, hydrosphere, cryosphere, and space

WP 3: Identification of life tracers, and interactions with planetary evolution

WP 4: Accretion and evolution of planetary systems

4. Network organization and operation

Creation of a Scientific Council

A Scientific Council was created in order to maximize Planet TOPERS productivity. List of Scientific accompanying committee members:

- Anne Lemaître (FUNDP)
- Michel Crucifix (UCL)
- Alessandro Morbidelli (Nice Observatory, France)
- Gerda Horneck (DLR, Germany)

Activities organized as part of the IAP network (Oct. 1st, 2012 to Sept. 31st, 2013)

The research and interactions between the teams were initiated during a fruitful **kick-off meeting on 1st Oct. 2012** (see Figure 1). It was followed by several WP specific or subgroup meetings (**WG meetings**).
Minutes of these meetings are available on the Planet TOPERS ftp site.

Figure 1: Kick-off meeting at ROB.

The **Annual Joint Meeting** was organized on May 21-23, 2013, at the DLR Berlin-Adlershof in the frame of the Helmholtz Alliance "Planetary Evolution and Life" as this year is their last year functioning as a Helmholtz Alliance.

The Planet TOPERS Members benefit from the **Astrobiology FNRS Contact Group** with Emmanuelle Javaux as President and Véronique Dehant as Secretary. The annual meeting was held at ROB **on March 8th** (the Women day!). We invited Mareike Godolt (Technische Universität Berlin and DLR Berlin) to talk about "PLAnetary Transits and Oscillations of stars (PLATO)" and Kevin Lepot (University of Lille) to present his work on "Isotopic and nanoscale textural evidences for the biogenicity of the oldest cellular structures (3.4 billion years old)". We also took this opportunity to have an Executive meeting.

Informal meetings were also organized to discuss specific questions or to celebrate some of the medals and prizes awarded to Planet TOPERS members (see below), such as a drink for the nomination of Elodie, an Aperitif in the garden of ROB for a get-together, etc.

Activities organized at International level (from Oct. 1st, 2012 to Sept. 31st, 2013)

Planet TOPERS members attended **several international meetings** to present the work of the Consortium, and establish its scientific presence within the community. There were several presentations at Geological Society of America Annual Meeting (November 4-7, 2012, Charlotte NC, USA), at the 35th National Institute of Polar Research Symposium on Antarctic Meteorites (November 29-30, 2012, Tokyo, Japan), at the American Geophysical Union Meeting (December 3-7, 2013, San Francisco, USA), at the International Continental Scientific Drilling Project work in Barberton Drilling Project: "Peering into the Cradle of Life" (February 18-25, 2013, Johannesburg, South Africa), at the Lunar and Planetary Science Conference (March 18-22, 2013, The Woodlands, Texas, USA), at European Geoscience Union Meeting (April 7-12, 2013, in Vienna, Austria), at the International Venus Workshop (June 10-14, 2013, in Catania, Italy), at the Goldschmidt conference (August 25-30, 2013, Florence, Italy), at European Planetary Science Congress (September 8-13, 2013, University College London, United Kingdom),

Planet TOPERS members were invited as lecturers to **several international thematic school**: on (Exo)planet Global Climate Models (April 15-16, 2013, Leuven), on Spectroscopy and Planetology (June 3-7, 2013, in Frejus, France), on Astrobiology [The First Educational Workshop on Astrobiology] (June 6-9, 2013, Höör, Sweden), on Astrobiology [AbGradCon 2013] (June 10-14, 2013, Montreal, Canada), on Origin, Evolution and Future of the Biosphere (August 19-30, 2013, Banyuls, France).

International radiancy (from October 1st, 2012 to September 31st, 2013)

Meeting Organization

Planet TOPERS Members were responsible for the organization of **3 sessions at EGU** (European Geosciences Union). The first entitled "*PS8.1: Planetary Evolution and Life*", was convened by Tilman Spohn, Doris Breuer, Lena Noack, Véronique Dehant (and others outside our IUAP). Planet TOPERS Tilman Spohn was awarded the Runcorn-Florensky Medal; the honorary lecture was given during the session.
The other two Planet TOPERS sessions at EGU, called "*GD1.1/PS2.7: Planetary Geodynamics*", conveners: Doris Breuer (and others outside our IUAP) (V. Dehant had an invited talk in that

session), and called "*BG1.1: Biogeosciences*", conveners: Emmanuelle Javaux (and others outside our IUAP).

Planet TOPERS Members **participated in the organization** of the Astrobiology Graduate Conference **(AbGradCon) 2013 meeting**, in Montreal, Canada, on June 10-14, 2013, along with a workshop taking place the following weekend. ESA fully supported the participation of European students (travel, lodging, meals and registration fees were funded by ESA, NASA and the Canadian Space Agency CSA).

The Planet TOPERS Consortium has organized a **complete session at EPSC**, entitled "*AB4: Planetary Habitability in the Solar System and Beyond*", conveners: V. Dehant, L. Noack, T. Spohn, D. Breuer, J.-P. Lebreton, O. Prieto-Ballesteros.

Planet TOPERS members (A.C. Vandaele, A. Mahieux, and V. Wilquet) have submitted a proposal for the creation of an ISSI International Team to study the role of SO_2 in the Venusian atmosphere. The project was accepted and the first meeting was organized in November 2013. Planet TOPERS members are moreover participating to 2 other ISSI International Teams as experts (Venus Cloud and Venus Temperature).

R. Maggiolo is member of the ISSI international team "Heavy Ions: Their Dynamical Impact on the Magnetosphere", coordinated by E. Kronberg (MPS, Germany).

R. Maggiolo is coordinator of the ISSI international team "Polar Cap Arcs: Understanding Magnetosphere-Ionosphere Coupling and Magnetospheric Topology during Periods of Northward IMF".

In summary the **5 ISSI workshops where Planet TOPERS is involved are**:

- "Venus SO2": investigation of the role of SO_2 in the Venusian atmosphere - PI: A.C. Vandaele and O. Korablev, 12 international experts - expert from Planet TOPERS: A. Mahieux - http://www.issibern.ch/teams/venusso2/ - first meeting in November 2013 (next meetings in June 2014 en Nov 2014),
- "Venus Atmos": towards a self -consistent model of the thermal structure of the Venus atmosphere - PI: S Limaye - experts from Planet TOPERS: A.C. Vandaele and A. Mahieux - http://www.issibern.ch/teams/venusatmos/ - first meeting in November 2013 (next meetings in June 2014 en Nov 2014),
- "Venus Clouds": investigating the role of clouds in the Venusian atmosphere - PI: C. Wilson and E. Marcq, expert from Planet TOPERS: V. Wilquet - http://www.issibern.ch/teams/venusclouds/ - first meeting in November 2013 (next meetings in June 2014 en Nov 2014),
- "Polar Cap Arcs": understanding magnetosphere-ionosphere coupling and magnetospheric topology during periods of northward IMF - PI: R. Maggiolo (from Planet TOPERS) - http://www.issibern.ch/teams/polarcap/ - Meetings on 4-8 Feb. 2013, 21-25 Oct. 2013,
- "Heavy Ions: Their Dynamical Impact on the Magnetosphere" - PI: E. Kronberg - expert from Planet TOPERS: R. Maggiolo - http://www.issibern.ch/teams/ionmagneto/ - meetings 11-15 Feb 2013 and 21-25 Oct 2013.

Meteorite Search in Antarctica

The VUB-ULB team composed of Planet TOPERS Vinciane Debaille, Wendy Debouge, Geneviève Hublet, Nadia Van Roosbroek and Harry Zekollari together with a Japanese team from the National Institute of Polar Research (Tokyo) searched the blue ice fields around PE (Princess Elizabeth) station in Antarctica for meteorites from December 2012 to February 2013. More than 400 new and unique samples were collected in particular an 18kg specimen, the largest found on the Southern Continent since 1988. This attracted quite a bit of media coverage worldwide (http://iuap-planet-

topers.oma.be/outreach.php). The blog (http://antarctica.oma.be/) of this expedition also received a lot of attention (statistics of the attendees are shown in Figure 2). The 18kg-meteorite found in Antarctica (see Figure 3) was shown at the Antarctic Treaty Consultative Meeting, on May 25-26, 2013, in Brussels.

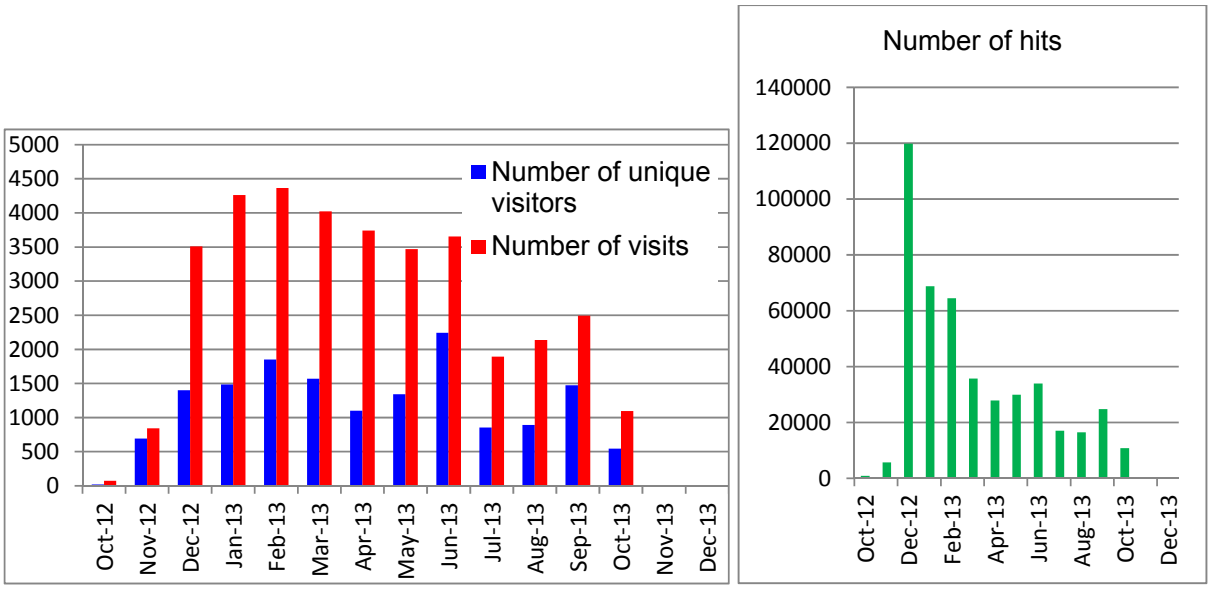


Figure 2: Statistics on the blog of the Antarctica expedition.

Figure 3: Planet TOPERS and the 18kg meteorite found in Antarctica.

Medals, Prizes, Awards

Several Members of Planet TOPERS have received Prizes or Awards:

- Elodie Gloesener, PhD student on TOPERS Planet, receive the ODISSEA prize for her work in the framework of a Master in Space Sciences at the University of Liège on methane and clathrates of Mars (Promoter Véronique Dehant and Ozgur Karatekin). She studied the temperature and pressure conditions allowing clathrates to be stable in the interior of Mars and those that allow the degassing of methane observed in the Martian atmosphere.

- Vinciane Debaille (ULB) received the Prize Baron van Ertborn of the Royal Academy of Belgium for her work in geology, isotope geochemistry and planetary science.
- Attilio Rivoldini (ROB) won a competition for the Class of Sciences of the Belgian Royal Academy (Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique) entitled: *One demands an original contribution, experimental or theoretical, on the physics of planets and moons of solar system*.
- Tilman Spohn was awarded with the 2013 Runcorn-Florensky Medal for his fundamental contributions to the study of the interior structures of terrestrial planets and outer satellites and for pioneering work in modelling their thermal evolution.
- Philippe Claeys, received the “Prix Adolphe Wetrens” 2013, given by the Class of Sciences of the Belgian Royal Academy (Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique), for major contribution in the natural sciences.
- Pascal Rosenblatt, received the “Prix Vanderlinden” 2013, given by the Class of Sciences of the Belgian Royal Academy (Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique), for major contribution in the field of electromagnetic wave propagation.
- Emmanuelle Javaux from University of Liege got one of the Francqui Research Professorship 2013-2017. The theme of her research will be "*Evolution of Life in the Precambrian and implications for astrobiology*".
- Frank Vanhaecke was designated ‘Fellow of the Society for Applied Spectroscopy – SAS’.

Website and Ftp

The planet TOPERS website is at http://planet-topers.oma.be/. It contains:

- Home (where the latest news are displayed)
- Objectives
- Partners
- Definition of Habitability
- Scientific Concept and Overall Planning
- Useful Links (including the Astrobiology Contact Group and the Helmholtz Alliance)
- Outreach (with all press released, interviews etc)
- News (the archive of all news)
- Planet TOPERS Meetings (with the details and the agendas)
- Other Conferences-Events (of interest for the group)
- Publications (will be updated after this report)
- Annual reports (will be updated after this report)
- Jobs
- Ftp (this is a private ftp as explained below; it requires a password).

The content of our ftp is the following: https://planet-topers.oma.be/index_library.php

- Acknowledgements - logos
- Action item list
- Administration documents (each institute = one directory)
- CVs
- Executive meetings
- Helmholtz Alliance
- Internal (WG) meetings
- Kickoff meeting
- Reports - Lists publications & presentations

- Outreach
- Project
- WP1 2 3 4 5: This is and will be the most active part of our ftp.

Visitors

BISA, 2012, "Host for the research visit of Dr. G. Verbanac (Hvar Observatory, Zagreb, Croatia) to work on empirical reconstruction using Cluster observations.", Belgian Institute for Space Aeronomy, Brussels, Belgium, 27 September - 24 October 2013.

ROB, 2012 and 2013, visiting scientists Jean-Charles Marty and Georges Balmino, CNES, France, Observatoire Midi-Pyrénées.

ROB, 2012 and 2013, visiting scientists Valery Lainey, IMCCE, France, Observatoire de Paris.

Outreach

Website

The coordinator is maintaining a website where all activities and results are mentioned.

Blog

For the Antarctica mission in the frame of the SAMBA (Search for Antarctica Meteorites: Belgian Activities) project and the Planet TOPERS activities, a blog called "*The Planet TOPERS in Antarctica*!" was created (see http://antarctica.oma.be/).

From December 3 to February 12, scientists from VUB and ULB collected meteorites in the Nansen Ice Field, South of the Princess Elizabeth Station, Antarctica. The study of these new and unique meteorites provides valuable information about 4.5 Gyr of evolution of the solar system, including planets and the Earth. Studying meteorites contributes to understand the formation and the age of the solar system, planets, asteroids and comets. The SAMBA program is a VUB-ULB research project, headed by Philippe Claeys (VUB) and Vinciane Debaille (ULB) and is made possible through the funding by the Belgian Science Policy (BELSPO) and the logistic support of the International Polar Foundation (IPF).

The meteorite search team consists of 5 Belgian participants, led by Vinciane Debaille, and 3 Japanese scientists from the National Institute of Polar Research (NIPR). Four women composed the Belgian team. Systematic searches by skidoo were carried out in December and January, whenever the weather permitted, and covered the southern and eastern parts of the Nansen ice field. The conditions are harsh, even for Antarctic summer. Typically, temperatures easily reach -20˚C with an average wind speed of 50 km/h, resulting in a windshield factor of -37˚C; the actual temperature felt by the people working in the field. It was a pleasure for the entire Planet TOPERS group and the public to follow this adventure. The number of recovered meteorites reaches 424!!!! This included a meteorite of 18 kg, which unique discovery receives worldwide press coverage (see http://iuap-planet-topers.oma.be/outreach.php).

Press releases

Concerning the 18kg meteorite: http://www.sciencesnaturelles.be/active/museumnews/meteorite http://www.natuurwetenschappen.be/active/museumnews/meteorite/index_html http://iuap-planet-topers.oma.be/press/28022012_meteorite_discovery_EN.pdf

Concerning the finding of a surprisingly cold region high in the planet's atmosphere that may be frigid enough for carbon dioxide to freeze out as ice or snow by BISA scientists: http://www.esa.int/Our_Activities/Space_Science/Venus_Express/A_curious_cold_layer_in_the_atmosphere_of_Venus

The work of the BISA team of the Interuniversity Attraction Pole (IAP) Planet TOPERS has been highlighted by ESA. In this new analysis based on five years of observations using ESA's Venus Express, BISA scientists have uncovered a cold layer with temperatures around –175ºC in the atmosphere 125 km above the planet's surface. "*The finding is new and we still need to think about and understand what the implications will be*", says Håkan Svedhem, ESA's Venus Express Project Scientist. If you are interested, see the ESA website http://www.esa.int/Our_Activities/Space_Science/Venus_Express/A_curious_cold_layer_in_the_atmosphere_of_Venus.

The work of the DLR team on biological enhancement of weathering and erosion has been the object of a press release and several press articles. When the DLR team of researchers modeled early Earth's mantle and crust with and without the potential added erosion caused by roots, bacteria, lichens and other biological agents of erosion, they found that the planet evolves with less continental area. The role of water in the Earth's mantle is critical to the model. The scientific article appeared in the scientific literature (in Planetary and Space Science) under the headline "Life gave Earth its continents". See http://www.newscientist.com/article/mg22029443.100#.Up7WWuIlhJ2 which appeared on 25 November 2013 and http://news.discovery.com/earth/rocks-fossils/did-early-life-build-earth-continents-131114.htm which appeared on 14 November 2013.

TV Interviews

- Interview of Véronique Dehant by Lucie Dendooven: RTBF TV for JT, 6 August 2012 – "MSL et habitabilité"
- Interview of Véronique Dehant by Vanessa Costanzo: RTL TV for RTL+ – 8 August 2012
- Interview of Véronique Dehant by Lucie Dendooven: RTBF TV for JT, "Curiosity" – 28 September 2012
- Interview of Vinciane Debaille: journal de RTBF, "Chute d'une météorite à Cheliabinsk et passage proche d'un astéroïde" – 15 février 2013
- Interview of Vinciane Debaille: journal de RTL-TVI, "Chute d'une météorite à Cheliabinsk et passage proche d'un astéroïde" – 16 février 2013
- Interview of Steven Goderis: Telecast on Ketnet, "Meteoriet gevonden tijdens expeditie Zuidpool " – 1 March 2013
- Interview of Véronique Dehant by Pascale Bollekens: journal de RTBF, "Découvertes de nutriments dans le sol Martien" – 13 March 2013
- Interview of Vinciane Debaille: Télé Bruxelles (plateau), "Météorite de 18 kg exceptionnellement exposée au Musée des sciences naturelles de Belgique" – 23 mai 2013

Radio Interviews

- Interview of Emmanuelle Javaux, Michaël Gillon and Emmanuel Jehin: RTBF-La Première, Le Forum de Midi, 12h, "Astronomie et exoplanètes"– 17 January 2012 (rediffusion from 20 December 2011)
- Interview of Véronique Dehant by Coralie Lemke: for « griffe de l'info » – 28 March 2012
- Interview of Véronique Dehant by François Kirsch: RTBF radio for news – 7 August 2012
- Interview of Véronique Dehant by Arnaud Ruyssen: RTBF radio for Matin Première 'l'invité de Matin Première' – 7 August 2012

- Interview of Véronique Dehant by Arnaud Ruyssen: RTBF radio for “Le Forum de midi” – 7 August 2012
- Interview of Véronique Dehant by Perine Willame: DW for Actualités / International – 6 August 2012
- Interview of Vinciane Debaille by Véronique Thyberghien and Yasmine Boudaka: RTBF-La Première, O Positif, 11h, les météorites en Antarctique – 18 February 2013
- Interview of Emmanuelle Javaux and Emmanuel Jehin by Véronique Thyberghien and Yasmine Boudaka: RTBF-La Première, O Positif, 11h, l’eau dans l’univers – 22 March 2013
- Interview of Emmanuelle Javaux: 48FM, "Découvertes de Curiosity, rover de la NASA sur Mars" – March 2013
- Interview of Romain Maggiolo: RTBF TV for JT - "Auroras in Belgium" – 13 April 2013

Paper press

- 15ème jour du mois (ULg) – sept 2012, n°216 ERC Grants: le sommet de l’excellence scientifique en Europe (http://le15ejour.ulg.ac.be/jcms/prod_32448/erc-grants-le-sommet-de-lexcellence-scientifique-en-europe? currentEdition=216&id=prod_32448)
- LaLibre (G.T.) – 7 August 2012: Interview of Véronique Dehant
- L’Avenir (Alain Wolwertz) – 7 August 2012: Interview of Véronique Dehant
- LeSoir (Frédéric Soumois) – 22 August 2012: Interview of Véronique Dehant
- Culture ULg. 7 p. http://culture.ulg.ac.be/jcms/prod_1049079/en-quete-de-signatures-de-vie Article Javaux EJ – 2012: En quête de signatures de vie. In « guide du voyageur Guide du voyageur intergalactique ».
- Le Soir – 26 novembre 2012: A la chasse à la météorite sur la glace antarctique, Interview of Vinciane Debaille
- L'avenir.net – 28 February 2013: "Une météorite de 18 kg trouvée par des chercheurs belges en Antarctique"
- Le Vif – 28 February 2013: "Une météorite de 18 kg trouvée par des chercheurs belges en Antarctique"
- 7sur7 – 28 February 2013: "Une météorite de 18 kg trouvée par des chercheurs belges en Antarctique"
- rtbf.be - info – 28 February 2013: "Des chercheurs belges ont trouvé une météorite de 18 kg en Antarctique"
- Le Figaro – 28 February 2013: "Météorite de 18 kg en Antarctique"
- Globalpost – 28 February 2013: "Scientists find one of Antartica's largest meteorites"
- BFMTV - planètes – 28 February 2013: "Antarctique: des scientifiques découvrent une météorite de 18 kg"
- Canada.com – 28 February 2013: "International scientists find 40-pound meteorite in eastern Antarctica"
- Edmonton Journal – 28 February 2013: "International scientists find 40-pound meteorite in eastern Antarctica"
- Montreal Gazette – 28 February 2013: "International scientists find 40-pound meteorite in eastern Antarctica"
- The Vancouver Sun – 28 February 2013: "International scientists find 40-pound meteorite in eastern Antarctica"
- News.com – 28 February 2013: "Scientists find large Antarctica meteorite"
- The Daily Telegraph - 28 February 2013: "Scientists find large Antarctica meteorite"
- SKYE weather – 28 February 2013: "Big Meteorite Discovered in Antarctica. An expedition netted 425 meteorites in 40 days, with a total weight of 165 pounds"
- Science Daily – 28 February 2013: "Antarctic Scientists Discover 18-Kilogram Meteorite"

- News - Princess Elisabeth Antarctica - Polar Research Station – 28 February 2013: Interview of Vinciane Debaille, Meteorite Hunter
- News - Princess Elisabeth Antarctica - Polar Research Station – February 2013: Article 'Scientists at Princess Elisabeth Antarctica Discover 18kg Antarctic Meteorite'
- La Recherche, interview E Javaux les macrofossiles de 2.1 milliards d'années, Gabon février 2013
- The Huffington Post – 3 March 2013: "Huge Meteorite Found In Antarctica, Largest Discovered There In 25 Years"
- De Standard – 12 March 2013: "Belgische wetenschappers ontdekken 18 kilo zware meteoriet op Antarctica"
- La Libre – 2 July 2013: "Terre et Mars, un peu cousines", Interview of Vinciane Debaille
- BIOFUTUR spéciale édition – July-August 2013: Javaux EJ, "Les premières traces de vie"
- Verviers News – 2013: Jehin E, Javaux EJ, Magain P, Gillon M, L'eau dans l'univers
- Le Soir – 2 juillet 2013: Quand la Terre ressemblait à Mars, Interview of Vinciane Debaille
- La libre Belgique – 31 aout 2013: de l'eau sur Terre grâce aux comètes, Interview of Vinciane Debaille

Public Conferences

- Javaux E.J., 2012, "Les débuts de la vie sur Terre, et ailleurs ?", Société Astronomique de Liège – 11 mai 2012.
- Sohl F., 2012, „Mars - Ziel der Raumfahrt (Mars - a space flight target).“, Planetarium of the Observatory of Schwerin, Further Education College "Ehm Welk", Schwerin, Germany – 5 October 2012.
- Sohl F., 2012, „Die Suche nach der zweiten Erde (The search for a second Earth).“, Planetarium of the Observatory of Schwerin, Further Education College "Ehm Welk", Schwerin, Germany – 6 October 2012.
- Javaux E.J., 2012, "How did I become a scientist. Green light for Girls.", Mol, Belgium – 20 November 2012.
- Sohl F., 2013, "Rocky Exoplanets.", Colloquium of the field of geosciences, Berlin, Germany – 7 February 2013.
- Wilquet V. Vandaele and A.C., 2013, "Passage de Vénus en 2012: des cythérographes à Venus Express.", Soc. Royale d'Astronomie, de météorologie et de Physique du Globe, Brussels – 14 February 2013.
- Sohl F., 2013, "Solid exoplanets.", MExLab Student Seminar, MIIGAiK Extraterrestrial Laboratory (MExLab), Moscow, Russia – 4. March 2013.
- Jehin E., Javaux E.J., Magain P., Gillon M., 2013, "L'eau dans l'univers.", Grande conférence Liégeoise. Verviers – 26 March 2013.
- Dehant V., 2013, "Rotation de la Terre et des planètes.", Cours au Collège de France dans le cadre de la Chaire "Développement durable Environnement, énergie et société", du Prof. Anny Cazenave – 8 April 2013.
- Dehant V., 2013, "Habiter sur Mars?", Conférence organisée par le Kot Astro – 24 April 2013.
- Vandaele A.C., 2013, "Exploring Venus.", organized by the Royal Society of Chemistry, Brussels – 26 November 2013.
- De Winne Frank, Dehant V., Willame Y., and Wilquet V., 2013, "Mars uncovered.", event-debate at the Planetarium of the Royal Observatory of Belgium, session of questions and answers with in the frame of the World Space Week 2013 – 4 October 2013.
- Rückriemen T., D. Breuer and T. Spohn, 2013, "Key characteristics of the iron snow regime in Ganymede's core.", MExLab Student Seminar, MIIGAiK Extraterrestrial Laboratory (MExLab), Moscow, Russia – 4 March 2013.

- Debaille V., 2013, "Météorites en Antarctique: archive de notre système solaire.", Maison communale de Tourinnes-La-Grosse – 7 novembre 2013.
- Debaille V., 2013, "Sciences en Antarctique", Institut Sainte Marie d'Arlon – 6 December 2013
- Claeys Ph., Series of lecture for high potential (IQ > 130) secondary school students in Flanders: Brightspark: "Planeet Aarde 4.5 miljard jaar voortdurend in verandering" organised by VZW BEKINA (www.bekina.org). (1) Hoe het begon? – 2 October 2013; (2) T-Rex vs. Meteoriet – 16 October 2013; (3) Klimaatverandering in stalagmieten – 6 November 2013; (4) Poster maken en diploma-uitreiking – 16 January 2014.

Other/New contracts since IAP

Two Planet TOPERS Members have obtained an **ERC Starting Grants** from the European Research Council. Close to a total of 3 million Euros are being invested in the two researchers' very high level research projects, exploring unexpected and audacious pathways in the study fields of the early evolution of life on Earth (E. Javaux, ULg) and initial composition of the solar system and terrestrial planets (V. Debaille, ULB). The extremely selective process (a 12% success rate) only retains the best researchers and very high level research projects, known as high gain, high risk, in other words projects in which the researchers demonstrate both their skills and their audacity in tackling very new research pathways which are likely to, should they prove successful, greatly enrich knowledge of the area concerned. In summary:

- Emmanuelle Javaux got an **ERC** (ELITE, for Early Life Traces, Evolution & Implications for Astrobiology), on early evolution of life on Earth, 2013-2018)
- Vinciane Debaille got an **ERC** called ISoSyc: Initial solar system composition

One Planet TOPERS Member (Ph. Claeys, VUB) has obtained a **VUB Strategic Research Grant** on Tracers of Past and Present Global Changes.

Planet TOPERS Members (O. Karatekin, V. Dehant, A.C. Vandaele, and Ph. Claeys) have obtained a budget for **networking with Russian science institutions** (Space Research Institute (IKI) and Russian Academy of Sciences (RAS)) for working on planetary and solar system sciences. In particular, the objectives are to better understand the meteorite and comet impacts on the atmosphere evolution of a planet and the influence on habitability, and to prepare the next missions for Mars exploration as well as for the exploration of the icy moons of the solar system. 15 October 2013-14 October 2016.

Planet TOPERS members are part a **bi-lateral project** between Belgium (BISA) and **India** (ISRO and other research centers). In the frame of this project, Belgian and Indian researchers collaborate for the different space missions to Mars.

We have a new Planet TOPERS member: Dr. Bernard Charlier. Bernard is a geologist and who obtained his PhD at the Université de Liège. He went in postdoc at MIT in the US with a Marie Curie Fellowship before going to the Leibniz Universität Hannover in Germany. His research interests focus on magmatic processes that have led to the chemical differentiation of the Earth and other terrestrial planets, and to the formation of ore deposits. He has been awarded a '**Back to Belgium Grant**' of the Federal Science Policy to rejoin our research network.

Several EU projects submitted by Planet TOPERS (BISA) members have been accepted

(1) FP7 'CrossDrive': to create a virtual environment to better merge data from different missions to Mars
(2) FP7 'EuroVenus': to better exploit the Venus Express results and ground-based observations of Venus

Planet TOPERS Members (E. Javaux, Ph. Claeys, V. Dehant, D. Breuer) are involved (Secondary proposers) in EU **COST action** ORIGINS (Origins and Evolution of Life on Earth and in the Universe).

One Planet TOPERS Member (BISA) has obtained the SIROCCO project in **answer to the ESA AO**/1-7019/12/NL/AF: Synergetic SWIR and IR retrievals of near-surface concentrations of CH_4 and CO for Earth and Planetary atmospheres.

Planet TOPERS do also participate into **several ISSI workshops** as mentioned in the paragraph on Meeting Organization.

Two Planet TOPERS Members (V. Dehant and E. Javaux) have obtained an **FNRS-FRFC** on Extensive study of the orbital dynamics of extrasolar systems to improve the habitability definition (name: ExtraOrDynHa) together with Univ. Namur (A. Lemaître, A.S. Libert) (1 July 2013-December 2016). Similarly, two other Planet TOPERS Members (J. De Keyser and A.C. Vandaele) have obtained an **FNRS-FRFC** on laboratory and model comparison for spectroscopy calibration and comparative study of atmospheric erosion, with Univ. Namur and ULB (Nathalie Vaeck, PI). ULB does also participate in an **FNRS-New equipment** on analytical/isotopic analysis (PI: N. Mattielli from ULB Planet TOPERS team). Name: AIMS: Advanced Isotopic Multitracing Spectrometry.

Two Planet TOPERS Members (Ph. Claeys and F. Vanhaecke) have obtained **FWO funding** (2013-2016) for the development of Lithium isotope as tracer of planetary processes.

Dr. Arnaud Mahieux (BISA) received a **BAEF grant** and is now spending 6 months as a post-doc researcher at the University of Arizona in the Lunar and Planetary Laboratory of Pr. Roger Yelle.

Dr. Arnaud Mahieux (BISA) has received a **post-doctoral grant from the FNRS** (Chargé de Recherches - 2013-2015).

Planet TOPERS Members (Ph. Claeys and E. Javaux) have succeeded to be elected with their project within the **ICDP** (International Continental Scientific Drilling Program).

A **new course** entitled “Physique et sondage de l’atmosphère” has been created at the Université de Namur and is given by A.C. Vandaele.

Other/New International Responsibilities since IAP

Ozgur Karatekin (ROB) is President of Planetary Science Section of EGU.

Véronique Dehant (ROB) is Member of the SSAC.

New international responsibilities (PI, co-PI, Co-I, PS, IM levels) in present and future missions.

Planet TOPERS in almost all presently active ESA missions and many NASA missions in Solar System (ESA: MEX, VEX, Cassini-Huygens in the Saturnian system, Rosetta (to comet 67P/Churyumov–Gerasimenko), Cluster (quartet of satellites as a space plasma microscope); NASA: MGS, Pathfinder Rover on Mars, ODY, MRO, MER, MSL, ACE);

Planet TOPERS in almost all future ESA missions and many NASA missions in Solar System (ESA: ExoMars (TGO, EDM, Rover), BepiColombo to Mercury, JUICE; NASA: MAVEN, InSIGHT, MSL2020);

5. Publications

List of publications from each team

ROB

PEER REVIEWED

Dumberry M., and Koot L., 2012, "A global model of electromagnetic coupling for nutations.", Geophys. J. Int., 191, 530-544, DOI: 10.1111/j.1365-246X.2012.05625.x.

Lamy P., Vernazza P., Groussin O., Poncy J., Martinot V., Hinglais E., Bell J., Cruikshank D., Helbert J., Marzari F., Morbidelli A., and Rosenblatt P., 2012, "Trojans' Odyssey: Unveiling the early history of the Solar System.", Experimental Astronomy, 33(2-3), pp. 685-721, DOI: 10.1007/s10686-011-9253-2.

Coyette A., Van Hoolst T., and Dehant V., 2012, "Period of the Slichter mode of Mercury and its possible observation.", Astronomy and Astrophysics, 543, A40, DOI: 10.1051/0004-6361/201218891.

Dehant V., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Spohn T., Vandaele A.C., Vanhaecke F., Van Hoolst T., and Wilquet V., 2012, From Meteorites to evolution and habitability of planets, Planet. Space Sci., DOI: 10.1016/j.pss.2012.05.018.

Rosenblatt P., Bruinsma S.L., Müller-Wodarg I.C.F., Häusler B., Svedhem H., and Marty J.C., 2012, "First ever in situ observations of Venus' polar upper atmosphere density using the tracking data of the Venus Express Atmospheric Drag Experiment (VExADE). ", Icarus, Special issue: "Advances in Venus science", Vol. 217, No 2, pp. 831-838.

Le Maistre S., Rosenblatt P., Rivoldini A., Dehant V., Marty J.C., and Karatekin Ö., 2012, "Lander Radio science experiment with a direct link between Mars and the Earth.", Planet. Space Sci., 68(1), 105-122, DOI: 10.1016/j.pss.2011.12.020.

Dehant V., Banerdt B., Lognonné P., Grott M., Asmar S., Biele J., Breuer D., Forget F., Jaumann R., Johnson C., Knapmeyer M., Lefeuvre M., Mimoun D., Mocquet A., Read P., Rivoldini A., Romberg O., Schubert G., Smrekar S., Spohn T., Tortora P., Ulamec S., and Vennerstrøm S., 2012, Future Mars geophysical observatories for understanding its internal structure, rotation, and evolution, Planet. Space Sci., 68(1), 123-145, DOI: 10.1016/j.pss.2011.10.016.

Dehant V., Oberst J., Nadalini R., Schreiber U., and Rambaux N., 2012, "Geodesy instrument package on the Moon for improving our knowledge of the Moon and the realization of reference frames.", Planet. Space Sci., 68(1), 94-104, DOI: 10.1016/j.pss.2012.02.008.

Beuthe M., Le Maistre S., Rosenblatt P., Pätzold M., and Dehant V., 2012, "Density and lithospheric thickness of the Tharsis Province from MEX MaRS and MRO gravity data.", J. Geophys. Res., 117, E04002, 32 pages, DOI: 10.1029/2011JE003976.

Oberst J., Lainey V., Le Poncin-Lafitte C., Dehant V., Rosenblatt P., Ulamec S., Biele J., Hoffmann H., Willner K., Schreiber U., Rambaux N., Laurent P., Zakharov A., Foulon B., Gurvits L., Murchie S., Reed C., Turyshev S.G., Noyelles B., Gil J., Graziano M., Kahle R., Klein V., Pasewaldt A., Schlicht A., Spurmann J., Wählisch M., and Wickhusen K., 2012, "GETEMME - A Mission to Explore the Martian Satellites and the Fundamentals of Solar System Physics.", Experimental Astronomy, DOI 10.1007/s10686-012-9307-0.

Lainey V., Karatekin Ö., Desmars J., Charnoz S., Arlot J.-E., Emelyanov N., Le Poncin-Lafitte C., Mathis S., Remus F., Tobie G., and Zahn J.-P., 2012, "Strong Tidal Dissipation in Saturn and Constraints on Enceladus.", Astrophys. J., 752(1), article id. 14, 19 pp., DOI: 10.1088/0004-637X/752/1/14.

Baland R.-M., Yseboodt M., and Van Hoolst T., 2012, "Obliquity of the Galilean satellites: The

influence of a global internal liquid layer.", Icarus, 220(2), pp. 435-448, DOI: 10.1016/j.icarus.2012.05.020.

Van Hoolst T., Rivoldini A., Baland R.-M., and Yseboodt M., 2012, "The effect of tides and an inner core on the forced longitudinal libration of Mercury.", Earth Planet. Space Sci., 333, pp. 83-90, DOI: 10.1016/j.epsl.2012.04.014.

Rambaux N., Castillo-Rogez J., Le Maistre S., and Rosenblatt P., 2012, "Rotational motion of Phobos.", Astronomy and Astrophysics, 548, id.A14, 11 pp., DOI: 10.1051/0004-6361/201219710.

Rosenblatt P., and Charnoz S., 2012, "On the Formation of the Martian Moons from a circum-martian accretion disk.", Icarus, 221(2), pp. 806-815, DOI: 10.1016/j.icarus.2012.09.009.

Stamenković V., Noack L., Breuer D., and Spohn T., 2012, "The Influence of Pressure-dependent Viscosity on the Thermal Evolution of Super-Earths.", Astrophy. J., 748(1), article id. 41, 22 pp., DOI: 10.1088/0004-637X/748/1/41.

Noack L., Breuer D., and Spohn T., 2012, "Coupling the atmosphere with interior dynamics: Implications for the resurfacing of Venus.", Icarus, 217(2), pp. 484-498, DOI: 10.1016/j.icarus.2011.08.026.

Leblanc F., Chassefière E., Gillmann C., and Breuer D., 2012, "Mars' atmospheric 40Ar: A tracer for past crustal erosion.", Icarus, 218(1), pp. 561-570, DOI: 10.1016/j.icarus.2012.01.006.

Margot J.-L., Peale S.J., Solomon S.C., Hauck S.A. II, Ghigo F.D., Jurgens R.F., Yseboodt M., Giorgini J.D., Padovan S., and Campbell D.B., 2012, "Mercury's moment of inertia from spin and gravity data.", J. Geophys. Res., 117, E00L09, DOI: 10.1029/2012JE004161.

Grott M., Baratoux D., Hauber E., Sautter V., Mustard J., Gasnault O., Ruff S. W., Karato S.-I., Debaille V., Knapmeyer M., Sohl F., Van Hoolst T., Breuer D., Morschhauser A., and Toplis M. J., 2013, "Long-Term Evolution of the Martian Crust-Mantle System.", Space Science Reviews, 174(1-4), pp. 49-111, DOI: 10.1007/s11214-012-9948-3.

Lammer H., Chassefière E., Karatekin Ö., Morschhauser A., Niles P.B., Mousis O., Odert P., Möstl U.V., Breuer D., Dehant V., Grott M., Gröller H., Hauber E., and Pham L.B.S., 2013, "Outgassing History and Escape of the Martian Atmosphere and Water Inventory.", Space Sci. Rev., 174(1-4), pp. 113-154, DOI: 10.1007/s11214-012-9943-8.

Hamilton C.W., Beggan C.D., Still S., Beuthe M., Lopes R.M.C., Williams D.A., Radebaugh J., and Wright W., 2013, "Spatial distribution of volcanoes on Io: Implications for tidal heating and magma ascent.", Earth and Planetary Science Letters, 361, pp. 272-286, DOI: 10.1016/j.epsl.2012.10.032.

Beuthe M., 2013, "Spatial patterns of tidal heating", Icarus, 223, pp. 308-329, DOI:10.1016/j.icarus.2012.11.020 [eprint arXiv:1212.4630].

Dumberry M., Rivoldini A., Van Hoolst T., and Yseboodt M., 2013, "The role of Mercury's core density structure on its longitudinal librations.", Icarus 225, pp 62 -74.

Grasset O., Dougherty M.K., Coustenis A., Bunce E., Erd C., Titov D., Blanc M., Coates A., Drossart P., Fletcher L., Hussmann H., Jaumann R., Krupp N., Lebreton J.P., Prieto-Ballesteros O., Tortora P., Tosi F., and T. Van Hoolst, 2013, "JUpiter ICy moons Explorer (JUICE): an ESA mission to orbit Ganymede and to characterise the Jupiter system.", Planetary and Space Science, 78, 1-21.

Le Maistre S., Rosenblatt P., Rambaux N, Castillo-Rogez J.C., Dehant V, and Marty J.C., 2013, "Phobos interior from librations determination using Doppler and star tracker measurements.", Planetary and Space Science, 85, 106-122, DOI: 10.1016/j.pss.2013.06.015.

Noack L., and Breuer D., 2013, "Modelling mantle dynamics with a high-order Frank-Kamenetskii approximation of the viscosity.", Geophys. J. Int., 195(1), pp. 27-46, DOI: 10.1093/gji/ggt248.

Van Hoolst T., Baland R.-M., and Trinh A., 2013, “On the librations and tides of large icy satellites.”, Icarus, 226, 299-315.

Yseboodt M., Rivoldini A., Van Hoolst T., and Dumberry M, 2013, “Influence of an inner core on the long-period forced librations of Mercury.”, Icarus, in press.

Noack L., and Breuer D., 2013, “Plate tectonics on rocky exoplanets: Influence of initial conditions and rheology.”, Planetary and Space Science, special issue ‘Planetary evolution and life’, DOI: 10.1016/j.pss.2013.06.020, in press.

Kuchynka P., Folkner W.M., Konopliv A.S., Park R.S., Le Maistre S., and Dehant V., 2013, “New constraints on Mars rotation determined from radiometric tracking of the Opportunity Mars Exploration Rover.”, Icarus, in press.

Witasse O., Duxbury T., Chicarro A., Altobelli N., Andert T., Aronica A., Barabash S., Bertaux J.-L., Bibring J.-P., Cardesin-Moinelo A., Cichetti A., Companys V., Dehant V., Denis M., Formisano V., Futaana Y., Giuranna M., Gondet B., Heather D., Hoffmann H., Holmström M., Martin P., Matz K.-D., Montmessin F., Morley T., Mueller M., Manaud N., Neukum G., Oberst J., Orosei R., Pätzold M., Picardi G., Pischel R., Plaut J.J., Reberac A., Pardo Voss P., Roatsch T., Rosenblatt P., Remus S., Schmedemann N., Willner K., and Zegers T., 2013, “Mars Express Investigations of Phobos and Deimos.”, Planetary and Space Science, in press.

Van Hoolst T., and Rivoldini A., 2013, “Interior structure and evolution of Mars.”, Encyclopedia of the Solar System, 3d Edition, Ed. Tilman Spohn.

Pätzold M., Andert T., Jacobson R., Rosenblatt P., and Dehant V., 2013, “Phobos: Observed bulk properties.”, Planetary and Space Science, accepted.

Noack L., Godolt M., von Paris P., Plesa A.-C., Stracke B., Breuer D., and Rauer H., 2013, “Constraints on planetary habitability from interior modeling.”, Planetary and Space Science, special issue ‘Planetary evolution and life’, accepted.

Gillmann C., and Tackley P., 2013, “Atmosphere/mantle coupling and feedbacks on Venus.”, accepted in JGR Planets.

BOOK, CHAPTER IN BOOK WITH INTERNATIONAL PEER-REVIEW

Dehant V., and Mathews P.M., 2013, “Earth Rotation Variations.”, Treatise on Geophysics, 2nd edition, Ed. Gerald Schubert, in press.

Van Hoolst T., 2013, “The rotation of the terrestrial planets.”, Treatise on Geophysics, Vol.10: Planets and Moons, 2nd edition, Ed. Gerald Schubert, in press.

Dehant V., and Van Hoolst T., 2013, “Rotation of terrestrial planets.”, Encyclopedia of the Solar System, 3d Edition, Ed. Tilman Spohn.

Noack L., and Tosi N., 2013, “High-Performance Modelling in Geodynamics. In: Integrated Information and Computing Systems for Natural.”, Spatial, and Social Sciences, Editor: C.-P. Rückemann, IGI Global, Chapter 16, pp. 323-252, DOI: 10.4018/978-1-4666-2190-9, ISBN: 978-1-4666-2190-9.

Noack L., and Breuer D., 2013, “Interior and surface dynamics of terrestrial bodies and their implications for the habitability.”, Book chapter in: Habitability on other planets and satellites: The quest for extraterrestrial life, series: “Cellular Origin, Life in Extreme Habitats and Astrobiology”, Eds. J.-P. de Vera and F. Seckbach, Springer, ISBN: 978-94-007-6545-0, pp. 203-233.

NON REVIEWED PROCEEDINGS or PUBLICATIONS

Van Hoolst T., Rivoldini A., Baland R.M., and Yseboodt M., 2012, “The Effect of Tides and an Inner Core on the Forced 88 day Libration of Mercury.”, extended abstract, Proc. 43rd Lunar and Planetary Science Conference, Poster 2082, The Woodlands, Texas, March 19-23, 2012.

Rosenblatt P., Le Maistre S., Lainey V., Rivoldini A., Mocquet A., Verhoeven O., Rambaux N., Le Poncin-Laffite C., Gurvits L., Marty J.C., Zakharov A., and Dehant V., 2012, “A Phobos geodesy experiment to constrain its bulk interior structure and origin.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Dehant V., Folgueira M., Puica M., and Geerinckx Q., 2012, “Coupling mechanisms at core-mantle boundary in rotation and orientation changes.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Yseboodt M., Dehant V., Iess L., and Mitrovic M., 2012, “Same Beam Interferometry on Mars for obtaining information on the interior.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Le Maistre S., Rosenblatt P., Rambaux N., Castillo-Rogez J., Dehant V., and J.-C. Marty, 2012, “Measurement of Phobos librations and tidal surface displacement.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Coyette A., Van Hoolst T., and Dehant V., 2012, “Slichter modes of Mercury: period and possible observation.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Yseboodt M., Rivoldini A., and Van Hoolst T., 2012, “Long-period librations of Mercury with an inner core.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Rosenblatt P., A. Mahieux, S. Bruinsma, V. Wilquet, Hakan Svedhem, I. Mueller-Wodarg, A.C. Vandaele, R. Drummond, S. Robert, and J.-L. Bertaux, 2012, “The Polar Upper Atmosphere of Venus Based on Observations from SOIR/VEX and the VExADE experiment.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Beuthe M., 2012, “Tidal tectonics and lateral variations of lithospheric thickness.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Rambaux N., J. Castillo-Rogez, Le Maistre S., and Rosenblatt P., 2012, “Dynamical rotation of Phobos.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Kudryashova M., Rosenblatt P., Lainey V., Le Maistre S., and Marty J.C., 2012, “Improvement of orbits of Mars Express, Voyager 2 and Mariner 9: application of a new arc-splitting method.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Van Hoolst T., 2012, “The effect of a liquid layer and tides on the longitudinal libration of Mercury and of large icy satellites.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Grasset O., Prieto-Ballesteros O., Dougherty M.K., Titov D., Erd Ch., Bunce E., Coustenis A., Blanc M., Coates A., Drossart P., Fletcher L., Van Hoolst T., Hussmann H., Jaumann R., Krupp N., Tortora P., Tosi F., and Wielders A., 2012, “Habitability of the giant icy moons: current knowledge and future insights from the JUICE mission.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Rivoldini A., and Van Hoolst T., 2012, “Constraints on Mercury’s interior structure from recent data on its gravity field and spin state.”, extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012.

Dehant V., Folgueira M., and Puica M., 2012, “Analytical computation of the effects of the core-mantle boundary topography on tidal length-of-day variations.”, in: Proc. Journées Systèmes de Référence spatio-temporels 2011, Vianna, Austria, 113-116.

Banerdt W.B., Smrekar S., Alkalai L., Hoffman T., Warwick R., Hurst K., Folkner W., Lognonné P., Spohn T., Asmar S., Banfield D., Boschi L., Christensen U., Dehant V., Giardini D., Goetz W., Golombek M., Grott M., Hudson T., Johnson C., Kargl G., Kobayashi N., Maki J., Mimoun D., Mocquet A., Morgan P., Panning M., Pike W.T., Tromp J., van Zoest T., Weber R., Wieczorek M., and the InSight Team, 2012, “INSIGHT: an integrated exploration of the interior of Mars.”, Extended abstract, LPSC Houston 2012, the 43rd Lunar and Planetary Science Conference, The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, Texas, March 19-23, 2012.

Dougherty M.K., Grasset O., Erd C., Titov D., Bunce E., Coustenis A., Blanc M., Coates A., Drossart P., Fletcher L., Hussmann H., Jaumann R., Krupp N., Prieto-Ballesteros O., Tortora P., Tosi F., and Van Hoolst T., 2012, “Jupiter ICy moons Explorer (JUICE): An ESA L-class mission candidate to the Jupiter system.”, Extended abstract, LPSC Houston 2012, the 43rd Lunar and Planetary Science Conference, The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, Texas, March 19-23, 2012.

Folkner W.M., Asmar S.W., Dehant V., and Warwick R.W., 2012, “The Rotation and Interior Structure Experiment (RISE) for the InSight mission to Mars.”, Extended abstract, LPSC Houston 2012, the 43rd Lunar and Planetary Science Conference, The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, Texas, March 19-23, 2012.

Dehant V., Van Hoolst T., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin O., Mattielli N., Noack L., Spohn T., Vandaele A. C., Vanhaecke F., and Wilquet V., 2012, “Planet TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of Their Reservoirs.”, 44th Lunar and Planetary Science Conference 2012, March 18-22, 2012 in The Woodlands, Texas, LPI Contribution No. 1719, p.2052.

Karatekin Ö., Ruth Z., and Chicarro A., 2012, “Preface to the special issue of PSS on “Terrestrial Planets: Part I”, Planetary and Space Science 68, 1-2

Rivoldini A., and Van Hoolst T., 2012, “Constraints on Mercury’s core size and composition.”, Extended abstract, LPSC Houston 2012, the 43rd Lunar and Planetary Science Conference, The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, Texas, March 19-23, 2012.

Van Hoolst T., Rivoldini A., Dehant V., Folkner W., Asmar S., and Banerdt B., 2012, “Interior of Mars from geodesy with the RISE experiment of InSight.”, Extended abstract, LPSC Houston 2012, the 43rd Lunar and Planetary Science Conference, The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, Texas, March 19-23, 2012.

Yseboodt M., Van Hoolst T., and Rivoldini A., 2012, “Long-period Librations of Mercury with an Inner Core.”, extended abstract, LPSC Houston 2012, the 43rd Lunar and Planetary Science Conference, The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, Texas, March 19-23, 2012.

Paris S., and Karatekin Ö., 2013, “Experimental Determination of the Dynamic Derivatives of a Reentry Capsule in Transonic Supersonic Regime.”, in: Proc. 8th International Planetary Probe Workshop, Portsmouth, Virginia, Part Session 6A: New Technologies, 11 p, http://www.planetaryprobe.org/SessionFiles/Session6A/Papers/Paris_Karatekin_Stability-Paper.pdf.

Yseboodt M., Rosenblatt P., Le Maistre S., and Dehant V., 2013, “Tracking of a lander on Ganymede surface for obtaining information on the interior.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Le Maistre S., Rivoldini A., Dehant V., Kuchynka P., Folkner W. M., Konopliv A., and Marty J.-C.,

2013, “New Mars rotational model from Opportunity radio-tracking and implications to the interior structure of Mars.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Van Hove B., Karatekin Ö., and Verbruggen W., 2013, “Mars atmosphere reconstruction using FADS on ExoMars EDM.”, in Proc. 10th International Planetary Probe Workshop, San Jose State University, California, USA, in press.

Dehant V., Lambert S., Koot L., Trinh A., and Folgueira M., 2013, “Recent advances in applications of geodetic VLBI to geophysics.”, in: Proc. IVS Workshop 2012, Vianna, Austria, in press.

INVITED ABSTRACTS - COMMUNICATIONS

Gillmann C., 2013, “The Evolution of Venus: mantle dynamics, atmospheric escape and meteorite impacts.”, invited talk ETH Zurich, Switzerland, 2013.

Dehant V., 2013, “Planetary Interiors and Geodesy.”, Invited talk, European Geosciences Union (EGU) General Assembly 2013, GD6.1/GMPV11, Vienna, Austria, April 8-12, 2013.

Dehant V., Folgueira M., Puica M., Koot L., Van Hoolst T., and Trinh A., 2013, “Next step in Earth interior modeling for nutation.”, Journées Systèmes de Référence Spatio-Temporels 2013, on ‘Scientific developments from highly accurate space-time reference systems’, invited talk, Observatoire de Paris, Paris, France, 16-18 September, 2013.

Noack L., 2013. "Formation of continents on early Earth" (Invited talk). In: European Astrobiology Network Association (EANA), 22.-25. July 2013, Szczecin, Poland.

NORMAL ABSTRACTS - COMMUNICATIONS

Dehant V., 2012, “IUAP Planet Topers – introduction.”, Kick-off meeting of the Planet TOPERS IAP, Brussels, October 1st, 2012.

Van Hoolst T., 2012, “Research in planetary sciences at the Royal Observatory of Belgium.”, Kick-off meeting of the Planet TOPERS IAP, Brussels, October 1st, 2012.

Noack L., 2012, “Description of DLR work.”, Kick-off meeting of Planet TOPERS, ROB, Brussels, Belgium, October 1st, 2012.

Van Hoolst T., and Karatekin Ö., 2012, “WP1: Internal Geophysics and Interaction with Atmosphere.”, Kick-off meeting of the Planet TOPERS IAP, Brussels, October 1st, 2012.

Noack L., 2012, “Short presentation of mantle convection work for Kick-off meeting of Planet TOPERS.”, Kick-off meeting of Planet TOPERS, ROB, Brussels, Belgium, October 1st, 2012.

Gloesener E., 2012, “Short presentation of clathrates and Mars evolution for Kick-off meeting of Planet TOPERS.”, Kick-off meeting of Planet TOPERS, ROB, Brussels, Belgium, October 1st, 2012.

Gillmann C., 2012, “Short presentation of mantle convection and atmosphere interaction in terrestrial planets for Kick-off meeting of Planet TOPERS.”, Kick-off meeting of Planet TOPERS, ROB, Brussels, Belgium, October 1st, 2012.

Pham L.B.S., 2012, “Short presentation of meteoroid impacts and atmosphere evolution for Kick-off meeting of Planet TOPERS.”, Kick-off meeting of Planet TOPERS, ROB, Brussels, Belgium, October 1st, 2012.

Dehant V., 2012, “IUAP Planet Topers – Administrative things and discussions.”, Kick-off meeting of the Planet TOPERS IAP, Brussels, October 1st, 2012.

Deleersnijder E., et al. including Karatekin Ö., 2012, “SLIM, the embryo of a finite-element, multi-scale hydrospheric mode.”, Seminar at Georges Lemaître Centre for Earth and Climate Research,Université catholique de Louvain, Louvain-la-Neuve, Belgium, October 2d, 2012.

Rosenblatt P., Le Maistre S., Mitrovic M., and Dehant V., 2012, “Belgium-geodesy experiment using Direct-To-Earth radio-link: application to Mars and Phobos.”, 3rd Moscow Solar System

Symposium (3M-S3), Space Research Institute Moscow, Russia, October 8-12, 2012.

Titov D.V., Dougherty M.K., Grasset O., Erd Ch., Bunce E., Coustenis A., Blanc M., Coates A., Drossart P., Fletcher L., Van Hoolst T., Hussmann H., Jaumann R., Krupp N., Prieto-Ballesteros O., Tortora P., Tosi F., and Wielders A., 2012, "JUpiter Icy moons Explorer: an ESA mission to the Jovian system.", Third Moscow Solar System Symposium (3M-S3), October 8-12, 2012.

Kuchynka P., Folkner W. M., Park R. S., Konopliv A. S., Le Maistre S., and Dehant V., 2012, "Mars Precession Rate And Moment Of Inertia Estimated From Radio Tracking Of The Mars Exploration Rover, Opportunity.", 44th annual meeting of the Division for Planetary Sciences of the American Astronomical Society (DPS), Reno, NV, USA, October 14-19, 2012.

Gloesener E., 2012, "Etude de l'origine du méthane martien: Les clathrates et l'évolution thermique et atmosphérique de Mars.", Seminary for ROB Team Meeting, October 24, 2012.

Dehant V., 2012, "PlaneT TOPERS, Planets: Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.", 5th Helmholtz Alliance week, Berlin, Germany, October 29-November 2, 2012.

Noack L., Godolt M., van Paris P., Stracke B., Plesa A.-C., Breuer D., and Rauer H., 2012, "Outgassing rates of exoplanets limited by geodynamics.", 5th Alliance Week of the HGF Alliance PEL, Berlin, Germany, October 29-November 2, 2012.

Beuthe M., and Rivoldini A., 2012, "How deep is Io's asthenosphere?, oral presentation in Session 'Geophysics of Satellites and Small Bodies', P21H-06, AGU, San Francisco, December 3-7, 2012.

Dehant V.M., Folgueira M., Puica M., Karatekin Ö., and Van Hoolst T., 2012, "Coupling mechanisms at core-mantle boundary in rotation and orientation changes, poster in Session 'Planetary Core-Mantle Interactions', DI31B-2401, AGU, San Francisco, December 3-7, 2012.

Gillmann C., Tackley P.J., and Golabek G., 2012, "Venus as illustration of the importance of atmospheric evolution when modeling terrestrial planets and their surface conditions.", oral presentation in Session 'Planetary Atmospheres and Evolution', P12B-03, AGU, San Francisco, December 3-7, 2012.

Karatekin Ö., and Pham L.B.S., 2012, "Atmospheric mass evolution of Mars, poster in Session 'Planetary Atmospheres and Evolution', P13C-1968, AGU, San Francisco, December 3-7, 2012.

Pham L.B.S., and Karatekin Ö., 2012, "Environmental Conditions of Early Mars given by an Energy Balance Model, poster in Session 'Planetary Atmospheres and Evolution', P13C-1965, San Francisco, AGU, December 3-7, 2012.

Yseboodt M., Van Hoolst T., and Rivoldini A., 2012, "How deep is Io's asthenosphere?", AGU Fall Meeting, San Francisco, U.S.A, December 3-7, 2012.

Coyette, A., Van Hoolst, T., and Dehant, V., 2012, "Slichter modes of Mercury.", First Scientific Seminar of UNITER, Brussels, December 10, 2012.

Noack L., Van Hoolst T., Dehant V., and Breuer D., 2012, "Build-up of continents and the H2O/CO2 cycle.", PLANET meeting, ROB, Brussels, Belgium, December 19, 2012.

Rosenblatt P., Tortora P., Rivoldini A., Le Maistre S., Mitrovic M., Tommei G., Gurvits L., Dehant V., Asmar S., Van Hoolst T., Lainey V., Estroffer D., Thuillot W., Rambaux N., Marty J.C., Margot J.L., 2013, "Radio Science Experiment on MarcoPolo-R (RAMPE): A test of models of formation of the binary system 1996 FG3.", 4th MarcoPolo-R Symposium on 'Astrobiological and cosmochemical implications of Marco Polo-R sampling of a primitive asteroid', Barcelona, Spain, January 16-17, 2013.

Asmar S., Folkner W., and Dehant V., 2013, "RISE, Rotation and Interior Structure Experiment –

Instrument part.", 1st Science Working Team of InSIGHT: A Geophysical Mission to Mars Interior exploration using Seismic Investigations, Geodesy, and Heat Transport, Pasadena, California, USA, January 28-29, 2013.

Dehant V., Asmar S., and Folkner W., 2013, "RISE, Rotation and Interior Structure Experiment – Science part.", 1st Science Working Team of InSIGHT: A Geophysical Mission to Mars Interior exploration using Seismic Investigations, Geodesy, and Heat Transport, Pasadena, California, USA, January 28-29, 2013.

Karatekin Ö., Zhu P., and Dehant V., 2013, "Ganymede surface temperature measurements using a thermal flux detector.", International Colloquium and Workshop "Ganymede Lander: scientific goals and experiments", Moscow, Russia, March 4-8, 2013.

Noack L., 2013, "Self-consistent formation of continents on early Earth.", Astrobiology FNRS Contact Group and Planet TOPERS meeting, Brussels, Royal Observatory of Belgium, March 8, 2013.

Pham L.B.S., 2013, "Mars: atmospheric mass evolution and climate at the end of the Noachian.", Astrobiology FNRS Contact Group and Planet TOPERS meeting, Brussels, Royal Observatory of Belgium, March 8, 2013.

Gloesener E., 2013, "Discovery of Martian methane and link with clathrates in the crust of Mars.", Astrobiology FNRS Contact Group and Planet TOPERS meeting, Brussels, Royal Observatory of Belgium, March 8, 2013.

Gloesener E., 2013, "Stability of methane clathrates in the crust of Mars.", NOMAD science working team meeting, Brussels, Belgium, BISA, March 14, 2013.

Karatekin Ö., 2013, "XXXXX ROB Contribution for NOMAD: Planetary geophysics: interiors, deformations, tectonics, dynamics of core and subsurface oceans, atmospheric and thermal evolution, atmospheric dynamics/composition.", NOMAD science working team meeting, Brussels, Belgium, BISA, March 14, 2013.

Dehant V., Van Hoolst T., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Mattielli N., Noack L., Spohn T., Vandaele A.C., Vanhaecke F., Wilquet V., and the Planet Topers group (see http://iuap-planet-topers.oma.be/partners.php), 2013, "PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.", LPSC, 44th Lunar and Planetary Science Conference, The Woodlands, Texas, March 18-22, 2013.

Verbruggen W., 2013, "Atmospheric tides on Mars at the time and latitude of the Phoenix landing.", Planets Meeting, Brussels, March 28, 2012.

Dehant V., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Mattielli N., Noack L., Spohn T., Vandaele A.C., Vanhaecke F., Van Hoolst T., Wilquet V., and the Planet Topers group (see http://iuap-planet-topers.oma.be/partners.php), 2013, "PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.", European Geosciences Union (EGU) General Assembly 2013, Poster, Session PS8.1, Vienna, Austria, April 8-12, 2013.

Gillmann C., 2013, "Atmosphere/mantle coupling on Venus and long term planetary evolution.", Vienna, Austria, April 8-12, 2013.

Gloesener E., Karatekin Ö., and Dehant V., 2013, "Martian methane and link with clathrates in the crust of Mars.", European Geosciences Union (EGU) General Assembly 2013, Poster, Session PS2.6, Vienna, Austria, April 8-12, 2013.

Noack L., Van Hoolst T., Breuer D., and Dehant V., 2013, "Self-consistent formation of continents on early Earth.", European Geosciences Union (EGU) General Assembly 2013, Session GD6.1/GMPV11, Vienna, Austria, April 8-12, 2013.

Rosenblatt P., Lainey V., Oberst J., Hoffmann H., Neukum G., Dehant V., Marty J.C., Witasse O., and the ESPaCE team, 2013, “Combination of the SRC images and radio-tracking data of Mars Express for improving the Phobos’ gravity field determination from close flyby(s).”, European Geosciences Union (EGU) General Assembly 2013, Poster, Session PS2.4, Vienna, Austria, April 8-12, 2013.

Pham L.B.S., and Karatekin Ö., 2013, “Environmental Conditions on Mars at the end of the Noachian.”, European Geosciences Union (EGU) General Assembly 2013, Poster, Session PS2.7, Vienna, Austria, April 8-12, 2013.

Karatekin Ö., Van Hove B., and Verbruggen W., 2013, “Martian atmospheric entry profiles and atmospheric tides.”, European Geosciences Union (EGU) General Assembly 2013, Poster, Session PS2.6, Vienna, Austria, April 8-12, 2013.

Svedhem H., Müller-Wodarg I., and Rosenblatt P., 2013, “The variable upper atmosphere of Venus, as determined by data from drag and torque measurements by Venus Express.”, European Geosciences Union (EGU) General Assembly 2013, Poster, Session PS2.2, Vienna, Austria, April 8-12, 2013.

Verbruggen W., Van Hove B., and Karatekin Ö., 2013, “Martian Atmospheric Entry Profiles and Atmospheric Tides.”, European Geosciences Union General Assembly 2013, European Geosciences Union (EGU) General Assembly 2013, Poster, Session PS2.2, Vienna, Austria, April 8-12, 2013.

Rosenblatt P., 2013, “The Martian Moons Phobos and Deimos: Origin and Fate”, Special Planetary Seminar of Brown University, Lincoln Field, US, April 29, 2013.

Dehant V., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Mattielli N., Noack L., Spohn T., Vandaele A.C., Vanhaecke F., Van Hoolst T., Wilquet V., and the PLANET TOPERS group (see http://iuap-planet-topers.oma.be/partners.php), 2013, “PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.”, Helmholtz Alliance Week, Berlin, Germany, May 21-23, 2013.

Gillmann C., 2013, “Atmosphere/mantle coupling on Venus and long term planetary evolution.”, oral presentation, Helmholtz Alliance 'Planetary Evolution and Life' Meeting, 6th Alliance Week, Berlin, Germany, May 21-23, 2013.

Noack L., 2013, “Outgassing constraints related to the formation of CO2-dominated atmospheres.”, oral presentation, Helmholtz Alliance 'Planetary Evolution and Life' Meeting, 6th Alliance Week, Berlin, Germany, May 21-23, 2013.

Noack L., 2013, “Self-consistent formation of continents.”, oral presentation, Helmholtz Alliance 'Planetary Evolution and Life' Meeting, 6th Alliance Week, Berlin, Germany, May 21-23, 2013.

Dehant V., Lognonné Ph., and Mimoun D., 2013, “The Phobos tides.”, SEIS Science review, Paris, 27 May, 2013.

Rambaux N., Castillo-Rogez J., Dehant V., and Kuchynka P., 2013, “The rotational dynamics of Vesta and Ceres.”, Société Française d'Astronomie et d'Astrophysique (SF2A), 4-7 June, 2013.

Gillmann C., 2013, “Long term evolution of Venus through Mantle/atmosphere coupling.”, oral presentation, Venus Workshop, Catania, Italy, June 10-14, 2013.

Van Hove B., Karatekin Ö., and Verbruggen W., 2013, “Mars atmosphere reconstruction using FADS on ExoMars EDM.”, 10th International Planetary Probe Workshop, San Jose State University, California, USA, June 17-21, 2013.

Ferracini L., and Karatekin Ö., 2013, “Dynamics stability of atmospheric entry vehicles.”, Short Course, 10th International Planetary Probe Workshop, San Jose State University, California, USA, June 17-21, 2013.

Asmar S., Sarkissian J., Oudrhiri K., Kahan D., Esterhuizen S., Jackson S., Preisig B., Karatekin Ö., and Griebel H., 2013, “Curiosity’s Landing Dynamics as Observed at the CSIRO Parkes Radio Telescope.”, 10th International Planetary Probe Workshop, San Jose State University, California, USA, June 17-21, 2013.

Noack L., Van Hoolst T., Breuer D., and Dehant V., 2013, “Relevance of continents for habitability and self-consistent formation of continents on early Earth.”, 13th International Workshop on Modelling of Mantle and Lithosphere Dynamics, Hønefoss, Norway, 31 August-5 September, 2013.

Dehant V., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Mattielli N., Noack L., Spohn T., Vandaele A.C., Vanhaecke F., Van Hoolst T., Wilquet V., and the PLANET TOPERS group (see http://iuap-planet-topers.oma.be/partners.php), 2013, “PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Yseboodt M., Rosenblatt P., Le Maistre S., and Dehant V., 2013, “Tracking of a lander on Ganymede surface for obtaining information on the interior.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Gloesener E., Karatekin Ö., Dehant V., and Vandaele A.C., 2013, “Martian methane and stability of clathrates in the crust of Mars.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Pätzold M., Andert T., Jacobson R., Rosenblatt P., and Dehant V., 2013, “Observed bulk properties of the Mars moon Phobos.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Le Maistre S., Rivoldini A., Dehant V., Kuchynka P., Folkner W. M., Konopliv A., and Marty J.-C., 2013, “New Mars rotational model from Opportunity radio-tracking and implications to the interior structure of Mars.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Trinh A., Van Hoolst T., Rivoldini A., and Dehant V., 2013, “What can we learn on the interior of icy moons from libration observations?”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Trinh A., 2013, “Tensor equations in slightly aspherical configurations: get peace of mind with TenGSHui.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Van Hoolst T., Baland R.-M., and Trinh A., 2013, “The effect of tides on the longitudinal libration of Ganymede.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Coyette A., and Van Hoolst T., 2013, “Slichter mode of large icy satellites.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Rivoldini A., Van Hoolst T., and Trinh A., 2013, “Insights into Mercury's interior structure from geodesy measurements.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Beuthe M., 2013, “Localized tidal heating in icy shells of variable thickness.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

Noack L., Godolt M., von Paris P., Plesa A.-C., Stracke B., Breuer D., and Rauer H., 2013, “Constraints on planetary habitability from interior modelling.”, European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013.

OTHER

Dehant V., 2012, “Habiter sur Mars?”, livre de poche de l’académie royale de Belgique, 96 pages.

Gloesener E., Karatekin Ö., and Dehant V., 2013, “Le méthane et les clathrates sur Mars.”, Ciel et Terre, 129, pp. 1-11.

Pham, L.B.S., 2012, “Habitability of Mars. Effects of asteroidal and cometary impacts on the atmospheric mass evolution and implications on climate during the Late Noachian period.”, PhD Thesis, Université catholique de Louvain.

BISA

PEER REVIEWED

Tudorie M., T. Földes, A.C. Vandaele, J. Vander Auwera, 2012, “CO2 pressure broadening and shift coefficients for the 1-0 band of HCl and DCl.”, J. Quant. Spectrosc. Radiat. Transfer 113, 1092-1101.

Daumont L., A. Jenouvrier, S. Mikhailenko, M. Carleer, C. Hermans, S. Fally and A.C. Vandaele, 2012, “High resolution Fourier Transform Spectroscopy of HD16O: line positions, absolute intensities and self-broadening coefficients in the 8800-11600 cm-1 spectral region.”, J. Quant. Spectrosc. Radiat. Transfer 113, 878-888.

Wilquet V., R. Drummond, A. Mahieux, S. Robert, A.C. Vandaele, and J.-L. Bertaux, 2012, “Optical extinction due to aerosols in the upper haze of Venus: Four years of SOIR/VEX observations from 2006 to 2010.”, Icarus 217, 875-881.

Mahieux, A., A.C. Vandaele, S. Robert, V. Wilquet, R. Drummond, F. Montmessin and J.-L. Bertaux, 2012, “Densities and temperatures in the Venus mesosphere and lower thermosphere retrieved from SOIR on board Venus Express: Carbon dioxide measurements at the Venus terminator.”, J. Geophys. Res. 117, E7, DOI:10.1029/2012JE004058.

Vandenbussche S., S. Kochenova, A.C. Vandaele, N. Kumps, and M. De Mazière, 2012, “Retrieval of Saharan desert dust properties from hyperspectral thermal infrared measurements by IASI.”, Proceedings of “Advances in Atmospheric Sciences and Applications”, ESA SP 708.

Vandaele A.C., A. Mahieux, S. Robert, S. Berkenbosch, R. Clairquin, R. Drummond, V. Letocart, E. Neefs, B. Ristic, V. Wilquet, F. Colomer, D. Belyaev, and J.-L. Bertaux, 2013, “Improved calibration of SOIR/Venus Express spectra.”, Optics Express Vol. 21, Iss. 18, pp. 21148–21161.

Robert S., Y. Borkov, J. Vander Auwera, R. Drummond, A. Mahieux, V. Wilquet, A.C. Vandaele, V.I. Perevalov, S. Tashkun, and J.L. Bertaux, 2013, “Assignment and Rotational Analysis of New Absorption Bands of the Carbon Dioxide Isotopologues in Venus Spectra.”, J. Quant. Spectrosc. Radiat. Transfer 114, 29-41.

Tennyson, J., Bernath, P., Brown, L. R., Campargue, A., Csaszar, A., Daumont, L., Gamache, R., Hodges, J., Naumenko, O., Polyansky, O. L., Rothman, L. S., Vandaele, A. C., Zobov, N. F., Derzi, A., Fabri, C., Fazliev, A., Furtenbacher, T., Gordon, I. E., Lodi, L., and Mizus, I., 2013, “IUPAC critical evaluation of the rotational–vibrational spectra of water vapor. Part III: Energy levels and transition wavenumbers for H216O.”, J. Quant. Spectrosc. Radiat. Transfer 117, 29-58.

Vandenbussche S., S. Kochenova, A. C. Vandaele, N. Kumps, and M. De Mazière, 2013, “Retrieval of desert dust aerosol vertical profiles from IASI measurements in the TIR atmospheric window.”, Atmos. Meas. Tech., 6, 2577–2591, DOI:10.5194/amt-6-2577-2013.

Gunell H., J. De Keyser, E. Gamby, and I. Mann, 2013, “Vlasov simulations of parallel potential drops in auroral flux tubes.”, Ann. Geophys., 31, 1227-1240.

Gunell H., J. De Keyser, and I. Mann, 2013, “Numerical and laboratory simulations of auroral acceleration.”, Phys. Plasmas 20, 102901, DOI: 10.1063/1.4824453.

De Keyser J., M. Echim, and M. Roth, 2013, “Cross-field flow and electric potential in a plasma slab.”, Ann. Geophys., 31, 1297-1314, DOI:10.5194/angeo-31-1297-2013.

Hässig M., K. Altwegg, H. Balsiger, J.J. Berthelier, U. Calmonte, M. Combi, J. De Keyser, B. Fiethe, S.A. Fuselier, M. Rubin, 2013, “ROSINA/DFMS capabilities to measure isotopic ratios in water at comet 67P/Churyumov-Gerasimenko.”, Planetary and Space Science 84, 148-152.

Tennyson J., Bernath, P., Brown, L. R., Campargue, A., Csaszar, A., Daumont, L., Gamache, R., Hodges, J., Naumenko, O., Polyansky, O. L., Rothman, L. S., Vandaele, and A. C., Zobov, 2013, “A Database of Water Transitions from Experiment and Theory.”, Pure and Applied Chemistry (accepted)

Tennyson J., Bernath, P., Brown, L. R., Campargue, A., Csaszar, A., Daumont, L., Gamache, R., Hodges, J., Naumenko, O., Polyansky, O. L., Rothman, L. S., Vandaele, A. C., Zobov, N. F., Dénez, N., Furtenbacher, T., Gordon, I. E., and Szidarovszky, T., 2013, “IUPAC critical evaluation of the rotational–vibrational spectra of water vapor. Part IV: Energy levels and transition wavenumbers for D216O, D217O, and D218O.”, J. Quant. Spectrosc. Radiat. Transfer (submitted)

Fissiaux L., Q. Delière, G. Blanquet, S. Robert, A. C. Vandaele, and M. Lepère, 2013, “CO2-broadening coefficients in the n4 fundamental band of methane at room temperature and application to CO2-rich planetary atmospheres.”, J. Molec. Spectrosc. (submitted)

Maggiolo R., and L. M. Kistler, 2013, “Spatial Dependence of the O+ and H+ ion density in the plasmasheet,”, Journal of Geophysical Research (submitted)

Kronberg E., M. Ashour-Abdalla, I. Dandouras, D. Delcourt, E. Grigorenko, L. Kistler, I. Kuzichev, J. Liao, R. Maggiolo, K. Orlova, D. Shklyar, Y. Shprits, and D. Welling, 2013, “Circulation of heavy ions in the magnetosphere: recent observations and models.”, Space Science Reviews, (submitted)

NORMAL ABSTRACTS - COMMUNICATIONS

Widemann T, P. Tanga, K. P. Reardon, S. Limaye, C. Wilson, A. Vandaele, V. Wilquet, A. Mahieux, S. Robert, J. M. Pasachoff, and G. Schneider, 2012, “Assymetry in the Polar Mesosphere Revealed by the 2012 Venus Transit Aureole.”, 44th annual meeting of the Division for Planetary Sciences of the American Astronomical Society, Reno, NV, USA, 14-19 Oct (2012)

Hicks G., J. Fischer, S. W. Bougher, A. S. Brecht, C. Parkinson, A. Mahieux, V. Wilquet, A. Vandaele, and J. Bertaux, 2012, “Densities And Temperatures In The Venus Upper Atmosphere: Comparison Between Soir Profiles And The VTGCM.”, 44th annual meeting of the Division for Planetary Sciences of the American Astronomical Society, Reno, NV, USA, 14-19 Oct (2012)

Fischer J.-L., S. W. Bougher, G. A. Hicks, A. S. Brecht, C. Parkinson, A. Mahieux, V. Wilquet, A. Vandaele, and J. Bertaux, 2012, “Study On The Upper Atmosphere Of Venus At The Terminator.”, 44th annual meeting of the Division for Planetary Sciences of the American Astronomical Society, Reno, NV, USA, 14-19 Oct (2012)

Bougher S. W., J. Fischer, G. Hicks, A. Brecht, C. Parkinson, A. Mahieux, V. Wilquet, A. Vandaele, and J. Bertaux, 2012, “Temperatures In The Venus Mesosphere And Thermosphere: Comparison of SOIR and VTGCM Profiles at the Terminator.”, 44th annual meeting of the Division for Planetary Sciences of the American Astronomical Society, Reno, NV, USA, 14-19 Oct (2012)

Parkinson C., S. Bougher, A. Brecht, A. Mahieux, V. Wilquet, A. Vandaele, and J. Bertaux, 2012, “Understanding Ground based and VEx Observations: Modeling Venus’ Upper Atmosphere and Its Variability.”, 44th annual meeting of the Division for Planetary Sciences of the American Astronomical Society, Reno, NV, USA, 14-19 Oct (2012)

Wilquet V., A.C. Vandaele, S. Robert, A. Mahieux, R. Drummond, and J.L. Bertaux, 2013, “SOIR/VEX mesospheric and thermospheric observations of the Venus atmosphere.”, Davos Atmosphere and Cryosphere Assembly 2013, Air, Ice and Process Interactions, An IUGG (IAMAS and IACS) Event, July 8-12 (2013)

Wilquet V., A. Picialli, F. Daerden, R. Drummond, A. Mahieux, S. Robert, A.C. Vandaele, F. Montmessin, and J.L. Bertaux, 2013, “SPICAV-SOIR mesospheric aerosols observations and modelling.”, International Venus Workshop, Catania, Sicily, 10-14 June (2013)

Vandaele A.C., R. Drummond, A. Mahieux, S. Robert, V. Wilquet, and J.L. Bertaux, 2013, “Trace gases in the mesosphere and lower thermosphere of Venus from SOIR/VEX observations.”, International Venus Workshop, Catania, Sicily, 10-14 June (2013)

Vandaele A.C., R. Drummond, A. Mahieux, S. Robert, V. Wilquet, D. Belyaev, A. Fedorova, F. Montmessin, and J.L. Bertaux, 2013, “Contribution of the SOIR/VEX instrument to VIRA II.”, International Venus Workshop, Catania, Sicily, 10-14 June (2013)

Vandenbussche S., S. Kochenova, A.C. Vandaele, N. Kumps, and M. De Mazière, 2013, “A new strategy for the retrieval of vertical profiles of desert dust concentration using IASI measurements.”, 3rd IASI Conference, Hyères les Palmiers, France, 4-8 February (2013)

Robert S., A. Mahieux, V. Wilquet, R. Drummond, A.C. Vandaele and J.-L. Bertaux, 2013, “Spectral inventory of the SOIR spectra onboard Venus Express.”, EGU Symposium, Vol. 15, EGU2013-4243, Vienna, Austria, 7-12 April (2013)

Vandaele A.C., V. Wilquet, R. Drummond, A. Mahieux, S. Robert, J.L. Bertaux, 2013, “SOIR/VEX observations of thermospheric CO on Venus.”, EGU Symposium, Vol. 15, EGU2013-3210, Vienna, Austria, 7-12 April (2013)

Mahieux A., V. Wilquet, A.C. Vandaele S. Robert, R. Drummond, M.A. Lopez Valverde, B. Funke, M. Lopez Puertas, F. Montmessin, A. Piccialli, and J.L. Bertaux, 2013, “CO2 rotational temperatures compared to hydrostatic temperatures obtained with the SOIR instrument on board VEx.”, International Venus Workshop, Catania, Sicily, 10-14 June (2013)

Vandenbussche S., S. Kochenova, A.C. Vandaele, N. Kumps, T. August, and M. De Mazière, 2013, “Vertical profiles of desert dust concentration from IASI TIR measurements: sensitivity to surface and atmospheric states.”, 2013 EUMETSAT Meteorological Satellite Conference and 19th American Meteorological Society AMS Satellite Meteorology, Oceanography, and Climatology Conference, Vienna, Austria, 16-20 September (2013)

Piccialli A., F. Montmessin, J.L. Bertaux, E. Marcq, A. Fedorova, O. Korablev, A. Mahieux, and A.C. Vandaele, 2013, “Density and temperatures of Venus upper atmosphere measured by stellar occultations with SPICAV/Venus Express.”, European Planetary Science Congress, London , UK, 8-13 September (2013)

Brecht A. S., S. Bougher, J. Fischer, A. Mahieux, V. Wilquet, and A. Vandaele, 2013, “Temperatures and CO2 Densities in Venus' Lower Thermosphere: Comparison of VTGCM and SOIR Profiles at the Terminator.”, European Planetary Science Congress, London , UK, 8-13 September (2013)

Vandaele A.C., R. Drummond, A. Mahieux, S. Robert, and V. Wilquet, 2013, “High variability of the Venus mesosphere and lower thermosphere.”, DPS, Denver, Calorado, USA, Oct. 6-11 (2013)

Dehant V., T. Van Hoolst, D. Breuer, P. Claeys, V. Debaille, J. De Keyser, E. Javaux, S. Goderis, Ö. Karatekin, N. Mattielli, L. Noack, T. Spohn, A.C. Vandaele, F. Vanhaecke, V. Wilquet and the Planet Topers group, 2013, “PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.”, Lunar and Planetary Science Conference, 44th LPSC, The Woodlands, Texas, USA, March 18-22 (2013)

Dehant V., D. Breuer, P. Claeys, V. Debaille, J. De Keyser, E. Javaux, S. Goderis, Ö. Karatekin, N. Mattielli, L. Noack, T. Spohn, A.C. Vandaele, F. Vanhaecke, T. Van Hoolst, and V. Wilquet,

2013, “PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.”, EGU Symposium, Vol. 15, EGU2013-4424, Vienna, Austria, 7-12 April (2013)

Mahieux A., V. Wilquet, A.C. Vandaele, S. Robert, M.A. Lopez Valverde, B. Funke, M. Lopez Puertas, J.L. Bertaux, and the SPICAV/SOIR team, 2013, “Rotational temperatures derived from CO2 bands using the SOIR instrument on board Venus Express: Comparison with hydrostatic temperature profiles.”, EGU Symposium, Vol. 15, EGU2013-7150, Vienna, Austria, 7-12 April (2013)

Wilquet V., A.C. Vandaele, R. Drummond, A. Mahieux, S. Robert, and J.L. Bertaux, 2013, “SOIR/VEX mesospheric aerosols observations and modelling.”, EGU Symposium, Vol. 15, EGU2013-3869, Vienna, Austria, 7-12 April (2013)

Willame Y., A.C. Vandaele, C. Depiesse, D. Gillotay, S. Kochenova, and F. Montmessin, 2013, “Preliminary results of aerosols' properties studied with EPF measurements from the SPICAM/UV instrument.”, EGU Symposium, Vol. 15, EGU2013-4071, Vienna, Austria, 7-12 April (2013)

Vandaele A. C., J.-J. López-Moreno, M. R. Patel, G. Bellucci, F. Daerden, R. Drummond, E. Neefs, S. Robert, J. Rodriguez Gomez, and the NOMAD Team, 2013, “NOMAD, a spectrometer suite for Nadir and Solar Occultation observations on the ExoMars Trace Gas Orbiter.”, EGU Symposium, Vol. 15, EGU2013-5690, Vienna, Austria, 7-12 April (2013)

Widemann T., P. Tanga, A.C. Vandaele, V. Wilquet, and A. Mahieux, 2013, “Mesospheric temperature at terminator using SDO/HMI aureole photometry and comparison with Venus Express.”, EGU Symposium, Vol. 15, EGU2013-3103, Vienna, Austria, 7-12 April (2013)

Robert S., A. Mahieux, V. Wilquet, R. Drummond, and A.C. Vandaele, 2013, “Spectral inventory of the SOIR spectra onboard Venus Express.”, HiRESMir Summer School, Fréjus, France, 2-7 June (2013)

Robert S., A. Mahieux, V. Wilquet, R. Drummond, and A.C. Vandaele, 2013, “Spectral inventory of the SOIR spectra onboard Venus Express.”, International Venus Workshop, Catania, Sicily, 10-14 June (2013)

Bougher S., C. Parkinson, A. Brecht, J. Fischer, A.C. Vandaele, V. Wilquet, and A. Mahieux, 2013, “Temperatures in Venus' Lower Thermosphere: Comparison of VTGCM and SOIR Profiles at the Terminator.”, International Venus Workshop, Catania, Sicily, 10-14 June (2013)

Widemann T., P. Tanga, A.C. Vandaele, V. Wilquet, A. Majieux, S. Jaeggli, K. Reardon, M. Penn, and J. Pasachoff, 2013, “Mesospheric Temperature at Terminator using SDO/HMI Aureole Photometry, DST/FIRS CO2 absorption spectroscopy and comparison with Venus Express.”, International Venus Workshop, Catania, Sicily, 10-14 June (2013)

Vandenbussche S., N. Theys, L. Clarisse, S. Kochenova, A.C. Vandaele, N. Kumps, and M. De Mazière, 2013, “Retrieval of ash plume altitude from IASI TIR radiances: a feasibility study.”, ESA Living Planet Symposium, Edinburgh, United Kingdom, 9 - 13 September (2013)

De Wachter E., N. Kumps, A. C. Vandaele, S. Kochenova, S. Vandenbussche, and M. De Mazière, 2013, “Synergetic SWIR/TIR retrieval of CH_4 with GOSAT/TANSO-FTS data.”, ESA Living Planet Symposium, Edinburgh, United Kingdom, 9 - 13 September (2013)

Vandaele A. C., A. Mahieux, S. Robert, V. Wilquet, R. Drummond, and J.-L. Bertaux, 2013, “Composition of the upper Venus atmosphere using SPICAV-SOIR on board Venus Express European Planetary Science Congress, London , UK, 8-13 September (2013)

Wilquet V., A. Mahieux, A. Picialli, F. Daerden, R. Drummond, S. Robert, A.C. Vandaele, F. Montmessin, and J.L. Bertaux, 2013, “SPICAV-SOIR mesospheric aerosols observations characterization and modelling.”, European Planetary Science Congress, London , UK, 8-13 September (2013)

Mahieux A., M. Lopez-Valverde, M. Lopez-Puertas, B. Funke, S. Robert, V. Wilquet, R. Drummond, A.C. Vandaele, and J.L. Bertaux, 2013, “Venus terminator temperature profiles using SPICAV-SOIR on board Venus Express.”, European Planetary Science Congress, London , UK, 8-13 September (2013)

Ohtsuki S., N. Iwagami, S. Robert, and A.C. Vandaele, 2013, “Temperature distributions in the Venus O_2 night airglow layer from spectroscopic observations.”, European Planetary Science Congress, London , UK, 8-13 September (2013)

Drummond R., A. C. Vandaele, J-J. Lopez-Moreno, M. R. Patel, G. Bellucci, F. Daerden, E. Neefs, and J. Rodriguez-Gomez, 2013, “NOMAD, a spectrometer suite for nadir and solar occultation observations on the ExoMars Trace Gas Orbiter.”, European Planetary Science Congress, London , UK, 8-13 September (2013)

Dawson D.G., M.R. Patel, J.P. Mason, P.G. Irwin, and A.C. Vandaele, 2013, “Radiative transfer modelling for NOMAD-UVIS on the ExoMars Trace Gas Orbiter mission.”, European Planetary Science Congress, London , UK, 8-13 September (2013)

Dehant V., D. Breuer, P. Claeys, V. Debaille, J. De Keyser, E. Javaux, S. Goderis, O. Karatekin, N. Mattielli, L. Noack, T. Spohn, A.C. Vandaele, F. Vanhaecke, T. Van Hoolst, V. Wilquet and the the Planet Topers group Team, 2013, “PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.”, European Planetary Science Congress, London , UK, 8-13 September (2013)

Schulte R., S. W. Bougher, C. D. Parkinson, A. Brecht, A.-C. Vandaele, V. Wilquet, and A. Mahieux, 2013, “Venus Terminator Temperature Structure: Venus Express SOIR and VTGCM Comparisons.”, AGU, San Fransisco, USA, 9-13 December (2013)

Parkinson C., 2013, “Analysis of Venus Express optical extinction due to aerosols in the upper haze of Venus.”, AGU, San Fransisco, USA, 9-13 December (2013)

Echim Marius, Johan De Keyser, Hervé Lamy, and Romain Maggiolo, 2013, “On the modeling of the quasi-stationary coupling between magnetospheric generators and the auroral ionosphere.”, International Workshop on Advances and Perspectives in Auroral Plasma Physics (APPW), Centre Paul Langevin, Aussois, France, April 1-5, 2013. (invited oral presentation)

De Keyser J., and M. Echim, 2013, “Electric potential differences across auroral generator interfaces.”, Poster EGU2013-2919, European Geosciences Union General Assembly 2013, Vienna, Austria, 7-12 April 2013. (poster)

De Keyser J., and H. Lamy, 2013, “Ionospheric studies at BISA: ionosphere-magnetosphere coupling in the auroral zone and the impact of meteors on the ionosphere. STCE Workshop on the Ionosphere.”, 14 May 2013. (oral presentation)

De Keyser J., H. Gunell, M. Echim, L. Maes, R. Maggiolo, and Y. Voitenko, 2013, “Electrostatic Aurora: A comprehensive picture. General Scientific Meeting of the Belgian Physical Society, Louvain-la-neuve, 22 May 2013. (oral presentation)

De Keyser J., R. Maggiolo, and L. Maes, 2013, “A generic description of planetary aurora.”, European Space Weather Week 10, Antwerp, Belgium, 18-22 November 2013. (oral presentation)

Gunell H., R. Maggiolo, G. Stenberg, H. Nilsson, M. Hamrin, T. Karlsson, N. Brenning, M. André, and J. De Keyser, 2013, “Fast plasmoids striking the magnetopause.”, Cluster 23rd workshop, Tromsø, Norway, 16-20 September 2013. (oral presentation)

Maggiolo R., M. Echim, R. Fear, D. Fontaine, C. Simon Wedlund, and Y. Zhang, 2013, “Coupling between the polar ionosphere and the magnetosphere during periods of Northward IMF: Cluster observations.”, XII IAGA Scientific Assembly, Merida Mexico, 26-31 August 2013 (invited oral presentation)

Maggiolo R., Echim, M., Fear, R., Fontaine, D., Simon-Wedlund, C., and Zhang, Y., 2013, "Magnetosphere-ionosphere coupling above the polar caps during periods of northward IMF.", 23rd Cluster workshop, Tromso Norway, 16-20 December 2013 (invited oral presentation)

Maes L., R. Maggiolo, S. Haaland, I. Dandouras, J. De Keyser, R. Fear, and D. Fontaine, 2013, "Solar illumination dependence of ionospheric outflows in field aligned acceleration regions above the polar caps.", Cluster 23rd workshop, Tromsø, Norway, 16-20 September 2013. (oral presentation)

De Keyser J., M. Echim, and M. Roth, 2013, "Cross-field flow and electric potential in plasma slabs.", Cluster 23rd workshop, Tromsø, Norway, 16-20 September 2013. (oral presentation)

De Keyser J., and F. Dhooghe, 2013, "Rosetta/ROSINA coma chemistry models.", ROSINA CoI Meeting, Vitznau, Switzerland, 17-20 June 2013. (Invited oral presentation).

Hässig M., K. Altwegg, H. Balsiger, J. J. Berthelier, U. Calmonte, M. Combi, J. De Keyser, B. Fiethe, S. A. Fuselier, and M. Rubin, 2013, "Capabilities to measure isotopic ratios in water at comet 67P/Churyumov-Gerasimenko with ROSINA/DFMS.", Presentation during the AAS Division on Planetary Science (DPS 2013) Meeting, Denver, CO, USA, 6-11 October, 2013. (oral presentation)

Mann I., J. De Keyser, H. Gunell, H. Lamy, T. Minato, A. Czechowski, and N. Meyer-Vernet, 2013, "Dust, comets, and Rosetta.", Rosetta Plasma Consortium Meeting, Kiruna, Sweden, 30 September - 4 October 2013. (oral presentation)

OTHER

Vandaele A.C., 2012, "Op stapel staande missies naar Mars.", Heelal 57 (1), 13-17 (2012)

Vandaele A.C., 2012, "Le passage de Vénus en 2012: Quelques résultats de Svalbard et d'ailleurs.", Ciel et Terre, 128 (3), 78-84 (2012)

Vandaele A.C., 2012, "Circulation et dynamique étonnantes sur Vénus. », Ciel et Terre, 128 (5), 145-150 (2012)

VUB

PEER REVIEWED

Da Silva A., C., De Vleeschouwer, D., Boulvain, F., Claeys, Ph., Fagel, N., Humblet, M., Mabille, C., Michel, J., Sardar Abadi, M., Pas, D., Dekkers, M. J., Manetic Susceptibility as a high-resolution correlation tool and as a climatic proxy in Paleozoic rocks – merits and pitfalls: examples from the Devonian in Belgium, Marine and Petroleum Geology, 46, 173-189, 2013. [IF 2.397] http://dx.doi.org/10.1016/j.marpetgeo.2013.06.012

De Vleeschouwer D., Rakocinski, M., Racki, G., Bond, D.P.G., Sobien, K., Claeys, Ph., The astronomical rhythm of Late-Devonian climate change (Kowala section, Holy Cross Mountains, Poland), Earth and Planetary Science Letters, 365, 25-37, 2013, DOI:10.1016/j.epsl.2013.01.016i [IF 4.491]

Godefroit P., Demuynck, H., Dyke, G., Hu, D., Escuillié F., Claeys, Ph., Reduced plumage and flight ability of a new Jurassic paravian theropod from China, Nature Communications, 4, Article Nr. 1394, 2013, DOI:10.1038/ncomms2389 [IF: 7.396]

Goderis S., Tagle, R., Belza, J., Smit, J., Montanari, A., Vanhaecke, F., Erzinger, J., Claeys, Ph., Reevaluation of siderophile element abundance and ratios across the Cretaceous-Paleogene (K-Pg) boundary: Implications for the nature of the projectile, IN PRESS Geochimica Cosmochimica Acta, 120, 417-446, 2013. [IF:4.41]. http://dx.doi.org/10.1016/j.gca.2013.06.010

Goderis S., Simonson, B. M., McDonald, I., Hassler, S. W., Izmer, A., Belza*, J., Terryn, H., Vanhaecke, F., Claeys, Ph., Ni-rich spinels and platinum group element nuggets condensed from a Late Archaean impact vapour cloud, Earth and Planetary Science Letters, 376, 87-98,

2013, [IF 4.491], http://dx.doi.org/10.1016/j.epsl.2013.06.027,

Goderis S., Wittmann, A., Zaiss, J., Elburg, M., Ravissa, G., Vanhaecke F., Deutsch, A., Claeys Ph., Testing the ureilite projectile hypothesis for the El'gygytgyn impact: Determination of siderophile element abundances and Os isotope ratios, Meteoritics and Planetary Science, 48, 7, 1296-1324, 2013 DOI: 10.1111/maps.12047, [IF 2.8]

Izmer A., Goderis, S., Simonson, B., McDonald, I., Hassler, S., Claeys, Ph., Vanhaecke, F., Application of laser ablation-ICP-mass spectrometry for 2-dimensional mapping of element distributions in a Late Archean impact spherule layer, Journal Analytical Atomic Spectrometry, 28, 1031-1038, 2013, DOI 10.1039/c3ja50045d, [IF 3.22]

Martin C., Debaille, V., Lanari, P., Goderis, S., Vandendael, I., Vanhaecke, F., Vidal, O., Claeys, Ph., REE and Hf distribution among mineral phases in the CV-CK clan: A way to explain present-day Hf isotopic variations in chondrites, Geochimica et Cosmochimica Acta 120, 496-513, 2013. [IF 4.41] http://dx.doi.org/10.1016/j.gca.2013.07.006

Van Rampelbergh M., Fleitmann, D., Verheyden, S., Cheng, H., Edwards, L., De Geest, P., De Vleeschouwer, D., Burns, S. J., Matter, A., Claeys, Ph., Keppens, E., Mid- to late Holocene Indian Ocean Monsoon variability recorded in four speleothems from Socotra Island, Yemen, Quaternary Science Review, 65, 129 – 142, 2013, http://dx.doi.org/10.1016/j.quascirev.2013.01.016 [IF 4.675]

Wittmann A., Goderis, S., Claeys, Ph., Vanhaecke, F., Deutsch, A., Adolph, L., Petrology of impactites from El'gygytgyn crater: Breccias in ICDP-drill core 1C, glassy impact melt rocks and spherules, Meteoritics and Planetary Science, 48, 7, 1199-1235, 2013 DOI: 10.1111/maps.12019 [IF 2.8]

Belza J., Goderis, S., Keppens, E., Vanhaecke, F., Claeys, Ph., An emplacement mechanism for the mega-block zone within the Chicxulub crater (Yucatan, Mexico) based on chemostratigraphy, Meteoritics and Planetary Science, 47, 3, 400-412, 2012, DOI: 10.1111/j.1945-5100.2012.01345.x [IF 3.25]

De Vleeschouwer D., Whalen, M., Day, J, Claeys, Ph. Cyclostratigraphic calibration of the Frasnian (Late Devonian) time-scale (western Alberta, Canada), Geological Society of America Bulletin, 124, 5-6, 928-942, 2012, DOI: 10.1130/B30547.1 [IF: 4.32]

De Vleeschouwer D., Da Silva, A-C., Boulvain, F., Crucifix, M., Claeys, Ph. Precessional and half-precessional climate forcing dynamics of Mid-Devonian monsoon-like dynamics; Climate of the Past, 8, 337-351, 2012, DOI:10.5194/cp-8-337-2012 [IF 3.82]

D'Haenens S., Bornemann, A., Roose, K., Claeys, P., Speijer, R.P., Stable isotope paleoecology ($\delta^{13}C$ and $\delta^{18}O$) of early Eocene Zeauvigerina aegyptiaca from the north Atlantic (DSDP site 401), Austrian Journal of Earth Sciences, 105, 179-188, 2012 [IF 1.417]

Koeberl C., Claeys, Ph., Hecht, L., McDonald, I., Geochemistry of Impactites, Elements, 8, 37-42, 2012, DOI: 10.2113/gselements.8.1.37 [IF 3.10]

Vanhove D., Stassen, P., Speijer, R.P., Claeys, P., Steurbaut, E. Intra- and Intertaxon stable O and C isotope variability of fossil fish otoliths: An early Eocene test case, Austrian Journal of Earth Sciences 105, 200-207, 2012, [IF 1.417]

BOOK, CHAPTER IN BOOK WITH INTERNATIONAL PEER-REVIEW

Goderis S., Paquay F., Claeys, Ph., Projectile identification in terrestrial impact structures and ejecta material, *in* Impact Cratering: Process and Products, Chapter 15, P. 223 -235, Blackwell Publishing, 2012, ISBN: 978-1-4051-9829-5

Boslough M., Nicoll, K., Holliday, V. T., Daulton, T., Meltzer, D., Pinter, N., Scott, N., Surovell, T., A., Claeys, Ph. Gill, J., Paquay, F., Marlon, J., Bartlein, P., Grayson, D., Jull, T., Whitlock, C., Arguments and evidence against a Younger Dryas impact event, Climate Landscape and

Civilizations, Eds. Glosan, L., Fuller D. Q., Nicoll K., Flad, R. K., Clift P. D., Geophysical Monographs Series, V. 198, p. 13 – 26, American Geophysical Union, Washington D. C., 2012, ISBN-ISSN: 978-0-87590-488-7

INVITED ABSTRACTS – COMMUNICATIONS

Claeys Ph., 2013. Belgian-Japanese meteorite searches in Antarctica. GEOTOP, network McGill-UQUAM, Montreal, Québec, Canada, September 23, 2013

Claeys Ph., 2013. Belgian-Japanese meteorite searches in Antarctica. Museum d'Histoire Naturelle de Paris, France, June 12, 2013

Claeys Ph., 2013. Belgian-Japanese meteorite searches in Antarctica. University of Oslo, Olso, Norway, May 28, 2013,

NORMAL ABSTRACTS - COMMUNICATIONS

Belza J., Goderis S., Smit J., Vanhaecke F., Baert K., and Claeys Ph. Micro-tektite spherules from proximal K-Pg sections: alteration patterns and clues to precursor melt lithologies. 2013. AGU meeting of the Americas, Cancun, May 14-17

Debaille, V., Imae, N., Claeys, Ph., Yamaguchi, A., Kojima, H., Debouge, W., Hublet, G., Mikoushi, T., Van Roosbroeck, N., Zekollari., H., The 2012-2013 joint field campaign for collecting meteorites in Antarctica: an efficient collaboration between Japan and Belgium, Abstract volume, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan November 14-15, 2013.

De Vleeschouwer D., Rakocinski, M., Racki, G., Bond, D., Sobien, K., Bounceur, N., Crucifix, M., Claeys, Ph., The astronomical rhythm of Late-Devonian climate change: an integration of cyclostratigraphy and numerical climate modeling, Geophysical Research Abstracts, EGU-2103-3363, 2013.

De Vleeschouwer D., Claeys, Ph., The false sence of chronostratigraphic certainty in the Devonian Geological Society of America, Abstract with programs, Vol. 45, (paper 325-8), 2013

Dehant V., Breuer, D., Claeys, Ph., Debaille, V., De Keyser, J. Javaux, E., Goderis, S., Karatekin, O., Mattielli, N., Noack, L., Spohn, T., Vandaele, A-C., Vanhaecke, F., Van Hoolst, T., Wilquet, V., and the Planet TOPERS group Team, PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation,and Evolution of their ReservoirS, Geophysical Research Abstracts, EGU-2103-4424, 2013.

Dehant V., Breuer, D., Claeys, Ph., Debaille, V., De Keyser, J. Javaux, E., Goderis, S., Karatekin, O., Mattielli, N., Noack, L., Spohn, T., Vandaele, A-C., Vanhaecke, F., Van Hoolst, T., Wilquet, V., and the Planet TOPERS group Team, PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation,and Evolution of their ReservoirS, European Planetary Science Conference, v. 8, EPSC2013-732, 2013

Dehant V., Breuer, D., Claeys, Ph., Debaille, V., De Keyser, J. Javaux, E., Goderis, S., Karatekin, O., Mattielli, N., Noack, L., Spohn, T., Vandaele, A-C., Vanhaecke, F., Van Hoolst, T., Wilquet, V., and the Planet TOPERS group Team, PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation,and Evolution of their ReservoirS, Lunar and Planetary Science Conference XXXXIV, CD-ROM # 2052, 2013

Goderis S., Tagle, R., Belza, J., Smit, J., Montanari, A., Vanhaecke, F., Erzinger, J., Claeys, Ph., Can siderophile element abundances and ratios across the K-PG boundary be used to discriminate between possible types of projectiles, Lunar and Planetary Science Conference XXXXIV, CD-ROM # 2167, 2013.

Kodolányi J., de Ridder, A., Raes, M., Polerecky, L., Claeys, Ph., Revisiting the Presolar Grain Inventory of the Y-691 Enstatite Chondrite, Abstract volume, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan November 14-15, 2013.

McKibbin S., Terryn, H., Hecht, L., Claeys, Ph., Olivine in EH chondrites as an indicator of metamorphism in the enstatite chondrite parent body, Abstract volume, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan November 14-15, 2013.

McKibbin S., Ireland, T., Amelin, Y., O'Neill, H., Holden, P., Lanc, P., Extinct nuclide dating of angrite meteorites by Secondary Ion Mass Spectrometry and the evolution of planetesimals. Helmholtz Alliance Planetary Evolution and Life: 6th Alliance Week Meeting, Berlin, Germany, May 21-24 2013.

McKibbin S., Ireland, T., Amelin, Y., O'Neill, H., Isotopic dating of hydrothermal mineralisation in carbonaceous chondrite asteroids using Mn-Cr decay. Contact Group Astrobiology and Planet TOPERS Joined Meeting, Brussels, Belgium, March 8th 2013.

Pittarello L., Debaille, V., DeVos, W., Claeys, Ph., Ordinary chondrites classification by Raman spectroscopy, Abstract volume, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan November 14-15, 2013.

Pittarello L., Habler, G., Abart, R., Garnet growth in frictional melts, DRT 2013, Deformation Mechanisms, Rheology and Tectonics International Conference, Leuven Programme and Abstract 2013.

Simonson B. M., Goderis, S., Beukes, N. J., Claeys, Ph., Detection of extraterrestrial material in CA 2.49 Kuruman spherule layer, South Africa, Geological Society of America, Abstract with programs, Vol. 45, (paper 200-3), 2013

Van Rampelbergh M., Fleitmann, D., Verheyden, S., Cheng, H., Edwards, L., Burns, S., Matter, A., Claeys, Ph., Keppens, E., Mid- to Late Holocene Indian Ocean Monsoon variability recorded in four speleothems from Socotra Island, YemenGeophysical Research Abstracts, EGU-2103-4214, 2013.

Van Roosbroeck N., Debaille, V., Goderis, S., Valley, J. W., Spicuzza, M J., Claeys, Ph., Formation of the IIE non magmatic iron meteorites, Goldschmidt 2013 abstract volume p. 2399, 2013.

Whalen M., De Vleeschouwer, D., Sliwinski, M., Day, J. E., Claeys, Ph., Insights into the pattern and timing of the Frasnian-Famennian biotic crisis in Western Canada from geochemistry and astronomical tuning, Geological Society of America, Abstract with programs, Vol. 45, (paper 303-2), 2013

Açıkalın S., Smit, J., Yılmaz, I O, Goderis, S., Vonhof, H. F. Ocakoğlu, F., Claeys, Ph., Fornaciari, E., S. Özkan Altıner, S., and Vellekoop, J., Isotopic and geochemical characterization of the K-Pg boundary sections from Central Sakarya Region, Turkey; a discussion on possible double impact, Geophysical Research Abstract, EGU2012-11556, 2012.

Belza J., Goderis S., Vanhaecke F., and Claeys Ph. 2012. Spatially resolved geochemistry of K-Pg spherules. European Planetary Science Congress, Vol. 7, Abstract EPSC2012-788, 2012.

Belza J., Goderis, S., Smit, J., Vanhaecke, F., Claeys, Ph., High spatial resolution geochemistry of K-PG impact spherules, Geological Society of America, Abstract with programs, Vol. 44, 7, p. 534 (paper 225-6), 2012

Da Silva A.C., Dekkers M. J., De Vleeschouwer, D., Claeys Ph., Boulvain, F., Magnetic susceptibility as a high-resolution correlation and paleoenvironmental tool in Palaeozoic records: merits and pitfalls. The Geological Society - High Fidelity: The Quest for Precision in Stratigraphy and its Application, Conference, 17th of May 2012, London, UK, 2012

Day J. E., Whalen, M., De Vleeschouwer, D., Claeys, Ph., Biostratigraphic calibration of high resolution magnetic susceptibility stratigraphy of the Late Frasnian (Late Devonian) Lime Creek Formation in the subtropical Ioca Basin of Western Laurussia. Geological Society of America, Abstract with programs, Vol. 447, p. 83 (paper 26-2), 2012

Debaille V., Goderis S., Kaiden H., and Claeys Ph. 2011. Search for Antarctic Meteorites, Belgian Approach. Abstract volume 4th International Geologica Belgica Meeting, September 2012

De Vleeschouwer D., Crucifix, M., Bounceur, N., Claeys, Ph., The impact of precession and obliquity on the Late-Devonian greenhouse climate. Abstract PP11C-2026, 2012 Fall Meeting AGU, San Francisco, CA, 3-7 Dec. 2012

De Vleeshouwer D., Crucifix, M., Bounceur, N., Claeys, Ph., The effect of precession and obliquity on the Late-Devonian climate. Time-series analysis in marine science and applications for industry. Conference, 17-21 September 2012, Logonna-Daoulas (Brest, France), 2012.

De Vleeschouwer D., Da Silva A.C., Boulvain F., Crucifix M., Belza J., Sinneseal M., and Claeys P. 2012. Stable isotopes ($\partial^{13}C$, $\partial^{18}O$, $^{87}Sr/^{86}Sr$) versus magnetic susceptibility at the Mid-Devonian La Couvinoise section: Does the astronomical interpretation stand? Abstract volume 4th International Geologica Belgica Meeting, September 2012.

De Vleeschouwer D., Rakocinski M., Racki G., Bond D.P., Sobien K., Claeys P. The astronomical rhythm of Late-Devonian climate change (Kowala section, Holy Cross Mountains, Poland). Abstract volume 4th International Geologica Belgica Meeting, September 2012.

De Vleeshouwer, D., Whalen, M., Day J.E., Claeys Ph., Cyclostratigraphic calibration of the Frasnian (Late Devonian) time scale (Western Alberta, Canada). The Geological Society - High Fidelity: The Quest for Precision in Stratigraphy and its Applications, Conference 16th of May 2012, London, UK, 2012.

Goderis S., Simonson, B. M., McDonald, I., Hassler, S. W., Izmer, A., Vanhaecke, F., Claeys, Ph., Geochemical correlation of two late Archean impact spherule layers between South Africa and Western Australia: The Paraburdoo-Reivilo link, Lunar and Planetary Science Conference XXXXIII, CD-ROM # 1882, 2012.

Goderis S., Belza, J., Claeys, Ph. The impact cratering record for clues on the rate of collisions and provenance, Lunar and Planetary Institute, Workshop on the Early Solar System impact bombardment II, Feb. 1 – 3, 2012, Abstract 4010, 2012.

Goderis S., Tagle, R., Belza, J., Smit, J., Montanari, A., Vanhaecke, F., Erzinger, J., Claeys, Ph., Reevaluation of siderophile element abundances and ratios across the Cretaceous-Paleogene (K-PG) boundary: implications for the nature of the projectile, Geological Society of America, Abstract with programs, Vol. 44, 7, p. 534 (paper 225-7), 2012

Imae N., Akada Y., Claeys Ph., Debaille V., Goderis S., Hublet G., Kojima H., Martin C., Mikouchi T., Van Roosbroek N., Yamaguchi A., Zekollari H., The plan of the search for Antarctic Meteorites on the Nansen Ice Field by the Joint Expedition between JARE-54 and BELARE 2012-2013, 35th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan November 29-30, 2012.

Izmer A., Goderis S., Simonson B.M., McDonald I., Hassler S.W., Claeys Ph., and Vanhaecke F. 2012. Application of Laser Ablation ICP-MS for 2-Dimensional Mapping of Element Distributions in a Late Archean Impact Spherule Layer. 11th European Workshop on Laser Ablation, Gijon, Spain, June 19 – 22, 2012.

Martin C., Debaille V., Lanari P., Goderis S., Vanhaecke F., Vidal O., and Claeys Ph., Trace element patterns and REE and Hf distribution among mineral phases in the CV-CK clan: a way to explain εHf variations in CHUR. 75th Annual Meteoritical Society Meeting, Cairns, Australia, 5254 Abstract, 2012.

Martin C., Lanari P., Debaille V., Goderis S., Vanhaecke F., Vidal O., and Claeys Ph., Trace-elements patterns and REE and Hf distribution among mineral phases in CK: a way to explain εHf variations in CHUR. 34th International Geological Congress, Brisbane, Australia.

Van Rampelbergh M., Fleitmann, D., Verheyden, S., Cheng, H., Edwards, L., De Vleeschouwer, D., Claeys, Ph., Burns, S. J., Matter, A., Keppens, E., Mid- to Late Holocene Indian Ocean

Monsoon variability recorded in four speleothems from Socotra Island, Yemen. Abstract PP41A-1975, presented at 2012 Fall Meeting AGU, San Francisco, CA, 3-7 Dec. 2012

Van Rampelbergh M., Verheyden, S., De Geest, P., Cheng, H., Edwards, L., De Geest P., Claeys, Ph., Keppens, E., 2012. Indian Ocean Monsoon dynamics recorded in speleothems from Socotra, Yemen. Daphne meeting, Heidelberg, Germany, February 8 – 10, 2012.

Van Roosbroek N., Goderis, S., Debaille, V., Valley, J. W., Claeys, Ph., Formation of the Mont dieu IIE non magmatic iron meteorite and origin of its silicate inclusions, Lunar and Planetary Science Conference XXXXIII, CD-ROM # 1773, 2012.

Whalen M., De Vleeschouwer, D., Sliwinski, M., Claeys, Ph., Day, J. E., 2012. Geochemistry and Cyclostratigraphy of Magnetic Susceptibility data from the Frasnian-Famennian event interval in western Canada: Insights in the pattern and timing of a biotic crisis. Abstract PP21D-03, presented at 2012 Fall Meeting AGU, San Francisco, CA, 3-7 Dec. 2012

Wittmann A., Goderis, S., Claeys, Ph., Elburg, M., Vanhaecke, F., Ravizza, G., Deutsch, A., Depositional record of pristine impactites and traces of the projectile in El Gygytgyn crater, Lunar and Planetary Science Conference XXXXIII, CD-ROM # 1999, 2012.

UGent

PEER REVIEWED

Belza J., S. Goderis, E. Keppens, F. Vanhaecke and P. Claeys, An emplacement mechanism for the mega-block zone within the Chicxulub crater, (Yucatán, Mexico) based on chemostratigraphy, Meteoritics and Planetary Science, 47, 400-413, 2012.

Dehant V., D. Breuer, P. Claeys, V. Debaille, J. De Keyser, E. Javaux, S. Goderis, Ö. Karatekin, T. Spohn, A.-C. Vandaele, F. Vanhaecke, T. Van Hoolst and V. Wilquet, From meteorites to evolution and habitability of planets, Planetary and Space Science,72, 3-17, 2012.

Kivel N., I. Günther-Leopold, F. Vanhaecke and D. Günther, Isotope fractionation during ion beam formation in multi-collector inductively coupled plasma mass spectrometry, Spectrochimica Acta B, 76, 126-132, 2012.

van Elteren J.T., A. Izmer, M. Šala, E.F. Orsega, V. Šelih, S. Panighello and F. Vanhaecke, 3D laser ablation-ICP-mass spectrometry mapping for the study of surface layer phenomena – a case study for weathered glass, Journal of Analytical Atomic Spectrometry, 28, 994-1004, 2013.

Izmer A., S. Goderis, B.M. Simonson, I. McDonald, S.W. Hassler, P. Claeys and F. Vanhaecke, Application of laser ablation – ICP – mass spectrometry for 2-dimensional mapping of element distributions in a late Archean impact spherule layer, Journal of Analytical Atomic Spectrometry, 28, 1031-1038, 2013.

Goderis S., B.M. Simonson, I. McDonald, S.W. Hassler, A. Izmer J. Belza, H. Terryn, F. Vanhaecke and P. Claeys, Ni-rich spinels and platinum group element nuggets condensed from a Late Archaean impact vapour cloud, Earth and Planetary Science Letters, 376, 87-98, 2013.

Goderis S., R. Tagle, J. Belza, J. Smit, A. Montanari, F. Vanhaecke, J. Erzinger and P. Claeys,Reevaluation of siderophile element abundances and ratios across the Cretaceous-Paleogene (K-Pg) boundary: implications for the nature of the projectile, Geochimica et Cosmochimica Acta, 120, 417-446, 2013.

Wittmann A., S. Goderis, P. Claeys, F. Vanhaecke, A. Deutsch, and L. Adolph, Petrology of impactites from El'gygytgyn crater: Breccias in ICDP-drill core 1C, glassy impact melt rocks and spherules, Meteoritics and Planetary Science, 48, 1199-1235, 2013.

Devulder V., L. Lobo, K. Van Hoecke, P. Degryse and F. Vanhaecke, Common analyte internal standardization as a tool for correction for mass discrimination in multi-collector inductively

coupled plasma - mass spectrometry, Spectrochimica Acta B, 89, 20-29, 2013.

Martin C., V. Debaille, P. Lanari, S. Goderis, I. Vandendael, F. Vanhaecke, O. Vidal and P. Claeys, REE and Hf distribution among mineral phases in the CV-CK clan: a way to explain present-day Hf isotopic variations in chondrites, Geochimica Cosmochimica Acta, 120, 496-513.,

ULg

PEER REVIEWED

Lepot K., Deremiens, L., Namsaraev, Z., Compère, P., Gérard, E., Verleyen, E., Tavernier, I., Hodgson, D.A., Wilmotte, A., Javaux, E., (in review). Organo-mineral imprints in fossil cyanobacterial mats of an Antarctic lake.Geobiology.

Allan M, Beghin J, Le Roux G, Piotrowska N, Javaux E, Court-Picon M, Mattielli N, Verheyden S, Fagel N, 2013. Mid and Late Holocene dust deposition in Western Europe: the Misten peat bog (Hautes-Fagnes, Belgium). Climate of the past, 9, 2889-2928.

Dehant V., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Spohn T., Vandaele A.C., Vanhaecke F., Van Hoolst T., and Wilquet V., 2012. From meteorites to evolution and habitability of planets. Planetary and Space Science Special Issue: "Exploring Mars Habitability" 72, 3-17.

Le Hérissé A, Masure E, Javaux E and Marshall CP, 2012. The end of a myth: Arpylorus antiquus paleozoic dinoflagellate. Palaios, 27, 414-423.

BOOK (Editor)

Gargaud M., Amils, R., Cernichicaro, Cleaves, J., Pinti, D., Viso, M., Albarede, F., Arndt, N., Javaux, E., Prantzos, Stahler, Raymond, Rouan, Ehrenfreund, Charnley, Spohn, Encrenaz, Latham, Kaltenegger, Kobayashi, Horneck, Bersini, Gomez, and Tirard (Eds.). (2014). ENCYCLOPEDIA OF ASTROBIOLOGY. Springer.2nd Edition (accepted).1600 p

CHAPTER IN BOOK WITH INTERNATIONAL PEER-REVIEW

Javaux E.J., and Lepot, K., 2013 (in press). Micropaleontology of the Paleoproterozoic. In: D Johnston and S Poulton (Eds) “Revolutions in the early Proterozoic: Tracking geochemical and geobiological change” Topics in Geobiology. Springer. (invited chapter)

Javaux E.J., Lepot, K., van Zuilen, M., Melezhik, V. A., and Medvedev, P. V., 2012. Palaeoproterozoic Microfossils, 22 pp, In: Melezhik, F., Kump, Lepland, Prave, and Strauss (Eds.), Reading the Archive of Earth’s Oxygenation. Springer. 490 p

Javaux E.J., 2014 (accepted) Ultrastructure, in Gargaud et al, Encyclopedia of Astrobiology Springer 1p

Javaux E.J., 2014 (accepted) Appearance and early evolution of eukaryotes in Gargaud et al, Encyclopedia of Astrobiology Springer 3p

Javaux E.J., 2014 (accepted) Biomarkers, biosignatures, traces of life in Gargaud et al, Encyclopedia of Astrobiology Springer 2p

Javaux E.J., 2014 (accepted) Microfossils in Gargaud et al, Encyclopedia of Astrobiology Springer 2p

Javaux E.J., 2014 (accepted) Morphological Biomarkers, in Gargaud et al, Encyclopedia of Astrobiology Springer 5p

Javaux E.J., 2014 (accepted) Acid maceration, in Gargaud et al, Encyclopedia of Astrobiology Springer 1p

Javaux E.J., 2014 (accepted) Amoebae, in Gargaud et al, Encyclopedia of Astrobiology Springer 1p

Javaux E.J., 2014 (accepted) Belcher Group Microfossils, in Gargaud et al, Encyclopedia of

Astrobiology Springer 1p

Javaux E.J., 2014 (accepted) bitumen, in Gargaud et al, Encyclopedia of Astrobiology Springer 1p

Javaux E.J., 2014 (accepted) dubiofossil, in Gargaud et al, Encyclopedia of Astrobiology Springer 1p

Javaux E.J., 2014 (accepted) fossil, in Gargaud et al, Encyclopedia of Astrobiology Springer 1p

Javaux E.J., 2014 (accepted) kerogen, in Gargaud et al, Encyclopedia of Astrobiology Springer 1p

Javaux E.J., 2014 (accepted) pseudofossil, in Gargaud et al, Encyclopedia of Astrobiology Springer 1p

Javaux E.J., 2014 (accepted) Acritarchs, in Gargaud et al, Encyclopedia of Astrobiology Springer 2p

Javaux E.J., 2014 (accepted) Gunflint microbiota, in Gargaud et al, Encyclopedia of Astrobiology Springer 4p

INVITED ABSTRACTS - COMMUNICATIONS

Javaux E.J., 2013. Les organismes primitifs. Colloque « les débuts de la vie ».Société Géologique de France, Museum National d'Histoire Naturelle, Paris, Nov. 22nd 2013.

Javaux E.J., 2013. Les trois premiers miliards d'années d'évolution de la vie, Bruxelles, Institut des Hautes Ecoles de Belgique, ULB, 18 octobre 2013.

Javaux E.J., 2013. The first three billion years of life Evolution. June 6-9th, Höör, 1st Astrobiology Education workshop. Sweden.

Javaux E.J., Martin H., 2012. Evolution de l'objet Terre. Workshop Evolution (Lecointre G and Gaurgaud M). MNHN, Paris,December 13th 2012

Javaux E.J., 2012. Les trois premiers miliards d'années d'évolution de la vie. MNHN, Paris, December 7th 2012.

Javaux E.J., 2012. Les trois premiers miliards d'années d'évolution de la vie. Classe des Sciences, Académie Royale des Sciences de Belgique, 6 octobre 2012.

Javaux E.J., 2012. Evolution of early eukaryotes. Keynote speaker, Int Geological Congress, Brisbane, August 5-10th 2012, Australia

NORMAL ABSTRACTS - COMMUNICATIONS

Javaux E.J., 2013. The « boring billion »: an exciting time for early eukaryotes ! Goldschmidt conference, Florence, Italy, August 25-30th 2013.

Josset J.-L., F. Westall, B.A. Hofmann, J.G. Spray, C. Cockell, S. Kempe, A.D. Griffiths, M.C. De Sanctis, L. Colangeli, D. Koschny, D. Pullan, K. Föllmi, L. Diamond, M.Josset , E. Javaux, F. Esposito, and D. Barnes. 2013. CLUPI, a high-performance imaging system on the ESA-NASA rover of the 2018 ExoMars mission to discover biofabrics on Mars. EGU General Assembly April 23-27th 2012, Vienna.

Javaux E.J., 2012. IAP PLANET TOPERS. Kick-off meeting, oct 1st 2012, ROB, Brussels.

Javaux E.J., 2012. The diversification of early eukaryotes. Geologica Belgica Annual meeting, Brussels September 11-14th 2012.

Dehant V., Breuer D, Claeys P, Debaille V, De Keyser J, Javaux E, Goderis S, Karatekin O, Mattielli N, Noack L, Spohn T, Vandaele AC, Vanhaecke F, Van Hoolst T, Wilquet V, and the Planet Topers group Team. PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS. LPSC 2013

Dehant V., Breuer D, Claeys P, Debaille V, De Keyser J, Javaux E, Goderis S, Karatekin O, Mattielli N, Noack L, Spohn T, Vandaele AC, Vanhaecke F, Van Hoolst T, Wilquet V, and the

Planet Topers group Team. PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS. Geophysical Research Abstracts Vol. 15, EGU2013-4424, 2013, EGU General Assembly 2013, Vienna April 2013

Javaux E.J., Asael D, Bekker A, Debaille V, Derenne S, Hofmann A, Mattielli N, and Poulton S. Identifying early Earth microfossils in unsilicified sediments. Geophysical Research Abstracts Vol. 15, EGU2013-7748-2, 2013. EGU General Assembly 2013, Vienna 7-12 April 2013

OTHER

Javaux E.J., and Dehant, V, 2013. FNRS contact group and IAP PLANET TOPERS joined workshop “Astrobiology: from stars and planet to extreme life”, Abstracts and Program, ROB Brussels March 18th 2013.

Javaux E.J., and Dehant, V, 2012. FNRS contact group workshop “Astrobiology: from stars and planet to extreme life”, Abstracts and Program, ROB Brussels February 14th 2012.

ULB

PEER REVIEWED

Debaille V., O'Neill, C., Brandon, A., Haenecour, P., Yin, Q.-Z., Mattielli, N., and Treiman, A., A delayed onset for modern plate tectonics revealed by 142Nd isotopes. Earth and planetary science letters, 373, 83-92, 2013.

Grott M., Baratoux, D., Hauber, E., Sautter, V., Mustard, J., Gasnault, O., Ruff, S.W., Karato, S.-I., Debaille, V., Knapmeyer, M., Sohl, F., Van Hoolst, T., Breuer, D., Morschhauser, A., and Toplis, M., Long-term evolution of the martian crust-mantle system. Space science reviews, 174, 49-111, 2013.

Martin C., Debaille, V., Lanari, P., Goderis, S., Vandendael, I., Vanhaecke, F., Vidal, O., Claeys, Ph., REE and Hf distribution among mineral phases in the CV-CK clan: A way to explain present-day Hf isotopic variations in chondrites, Geochimica et Cosmochimica Acta 120, 496-513, 2013.

Mezger K., Debaille, V., and Kleine, T., Core Formation and Mantle Differentiation on Mars. Space science reviews, 174, 27-48, 2013.

O'Neill C., Debaille, V., and Griffin, W., Deep Earth Recycling in the Hadean and constraints on surface tectonics. In V. Bennett and D. Rye (Eds.), First Billion Years Special Issue of the American Journal of Science, in press.

Pivin M., Debaille, V., Mattielli, N., and Demaiffe, D., Nd-Hf isotope systematics of megacrysts from the Mbuji-Mayi kimberlites, D. R. Congo: evidence for a metasomatic origin related to kimberlite interaction with the cratonic lithospheric mantle. In G. Pearson, H. Grütter, J. Harris, B. Kjarsgaard, H. O'Brien, N. Rao, and S. Sparks (Eds.), Proceedings of 10th International Kimberlite Conference volume 1: Special Issue of the Journal of the Geological Society of India, 123-136, 2013

Dehant V., Breuer, D., Claeys, P., Debaille, V., De Keyser, J., Javaux, E., Goderis, S., Karatekin, O., Spohn, T., Vandaele, A. C., Vanhaecke, F., Van Hoolst, T., and Wilquet, V., From meteorites to evolution and habitability of planets. Planetary and space science, 72(1), 3-17, 2012.

Le Roux G., Fagel, N., De Vleeschouwer, F., Krachler, M., Debaille, V., Stille, P., Mattielli, N., Van der Knaap, W., Van Leeuwen, J. F., and Shotyk, W., Volcano- and climate-driven changes in atmospheric dust sources and fluxes since the Late Glacial in Central Europe. Geology, 40, 335-338, 2012.

INVITED ABSTRACTS – COMMUNICATIONS

Debaille V., Collecting meteorites in Antarctica: an exploration towards the end of the Earth, Ensisheim meteorite fare, 2013

Debaille V., The history of Mars revealed by Martian meteorites, Belgian Royal Academy of Sciences, 2012.

Debaille V., The importance of meteorites, Université Libre de Bruxelles, Belgian Space Week 2012

Debaille V., Antractic meteorites: Archives from our solar system, Institut des Hautes Etudes de Belgique, 2012

NORMAL ABSTRACTS - COMMUNICATIONS

Debaille V., Yin Q.-Z., and Amelin Y., Can Diffusion Cause Discrepant Lu-Hf Isochrons in Meteorites? Goldschmidt Conference, Florence, Italie, 2013.

Debaille, V., Imae, N., Claeys, Ph., Yamaguchi, A., Kojima, H., Debouge, W., Hublet, G., Mikoushi, T., Van Roosbroeck, N., Zekollari., H., The 2012-2013 joint field campaign for collecting meteorites in Antarctica: an efficient collaboration between Japan and Belgium, Abstract volume, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan November 14-15, 2013.

Debouge W., Mattielli N., Debaille V. Towards an efficient coupled Cu and Zn purification technique adapted to precious terrestrial and meteorite materials, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan, 2013.

Dehant V., Breuer, D., Claeys, Ph., Debaille, V., De Keyser, J. Javaux, E., Goderis, S., Karatekin, O., Mattielli, N., Noack, L., Spohn, T., Vandaele, A-C., Vanhaecke, F., Van Hoolst, T., Wilquet, V., and the Planet TOPERS group Team, PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation,and Evolution of their ReservoirS, Geophysical Research Abstracts, EGU-2103-4424, 2013.

Dehant V., Breuer, D., Claeys, Ph., Debaille, V., De Keyser, J. Javaux, E., Goderis, S., Karatekin, O., Mattielli, N., Noack, L., Spohn, T., Vandaele, A-C., Vanhaecke, F., Van Hoolst, T., Wilquet, V., and the Planet TOPERS group Team, PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation,and Evolution of their ReservoirS, European Planetary Science Conference, v. 8, EPSC2013-732, 2013

Dehant V., Breuer, D., Claeys, Ph., Debaille, V., De Keyser, J. Javaux, E., Goderis, S., Karatekin, O., Mattielli, N., Noack, L., Spohn, T., Vandaele, A-C., Vanhaecke, F., Van Hoolst, T., Wilquet, V., and the Planet TOPERS group Team, PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation,and Evolution of their ReservoirS, Lunar and Planetary Science Conference XXXXIV, CD-ROM # 2052, 2013

Duchemin C., Mattielli N., Debaille V., Arndt N., and Chauvel C., Investigation of Archean Mantle Plume Components from 2.7 Ga Komatiites (Abitibi, Canada), Goldschmidt Conference, Florence, Italie, 2013.

El Atrassi F., Brunet F., Chazot G., Chopin C. Metamorphic and Magmatic Overprint of Garnet Pyroxenites from the Beni Bousera Massif (Northern Morocco): Mineralogical, Chemical and Textural Records, Goldschmidt Conference, Florence, Italie, 2013.

Hidaka Y., Yamaguchi A., Shirai N., Ebihara M., Partial Melting Processes on the Primitive Achondrite Parent Bodies from a Viewpoint of Chemical Composition, 44th Lunar and Planetary Science Conference, Houston, USA, Abstract #1892, 2013.

Hidaka Y., Shirai N., Yamaguchi A., Ebihara M., Debaille V., Chemical composition of primitive achondrites: Clues for understanding the early differentiation processes of their parent bodies, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan, 2013.

Hublet G., Debaille V., Wimpenny J., and Yin Q.-Z., Geological History of 4-Vesta: 26Al-26Mg Dating on Eucrites and Diogenites Goldschmidt Conference, Florence, Italie, 2013.

Hublet G., Debaille V. 26Al-26Mg Systematic and 26Mg* Anomaly in Ureilites, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan, 2013.

O'Neill C., Debaille V., and Griffin W., What Does Hadean Mantle Mixing Tell us About Hadean Geodynamics? Goldschmidt Conference, Florence, Italie, 2013.

Pittarello, L., Debaille, V., DeVos, W., Claeys, Ph., Ordinary chondrites classification by Raman spectroscopy, Abstract volume, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan, 2013.

Tronnes R.G., Debaille V., Erambert M., Stuart .FM., and Waight T., Mixing and Progressive Melting of Deep and Shallow Mantle Sources in the NE Atlantic and Arctic, Goldschmidt Conference, Florence, Italie, 2013.

Van Roosbroek N., Debaille V., Goderis S., Valley J.W., Spicuzza M. J., Claeys P., Formation of the Mont Dieu IIE non-magmatic iron meteorite, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan, 2013.

Van Roosbroek N., Debaille V., Goderis S., Valley J., Spicuzza M., and Claeys P., Formation of the IIE Non Magmatic Iron Meteorites, Goldschmidt Conference, Florence, Italie, 2013.

Debaille V., and Brandon A. D., What isotopic signature of shergottite and nakhlite tell us about the martian mantle?Workshop on the martian mantle, Houston, USA, 2012

Debaille V., O'Neill C., Brandon A. D., Haenecour P., Yin Q.-Z., Mattielli N., Treiman A. H., How to preserve a chemically heterogeneous martian mantle? A plate tectonics point of view. Meteoritical Society Conference, Cairns, Australia, 2012

Debaille V., O'Neill C., Brandon A.D., Haenecour P., Yin Q.-Z., Mattielli N., Treiman A.H., Stagnant-lid tectonics in early Earth revealed by 142Nd variations in late Archean rocks, , Goldschmidt Conference, Montréal, Canada, 2012

Duchemin C., Debaille V., Chauvel C., Arndt N., Mattielli N.. Hf isotope analyses on Archean pyroxenite, Goldschmidt Conference, Montréal, Canada, 2012.

Hublet G., Debaille V., Wimpenny J., Yin Q-Z., Internal 26Al-26Mg Isochrons in Eucrites and Chronology of the Magmatic Activity in 4-Vesta, Meteoritical Society Conference, Cairns, Australia, 2012.

Mattielli N., Haenecour P., Debaille V., Zn isotope fractionation in Archean komatiites and associated lava-flows, Goldschmidt Conference, Montréal, Canada, 2012.

Imae N., Akada Y., Claeys Ph., Debaille V., Goderis S., Hublet G., Kojima H., Martin C., Mikouchi T., Van Roosbroek N., Yamaguchi A., Zekollari H., The plan of the search for Antarctic Meteorites on the Nansen Ice Field by the Joint Expedition between JARE-54 and BELARE 2012-2013, 35th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan November 29-30, 2012.

Martin C., Debaille V., Lanari P., Goderis S., Vanhaecke F., Vidal O., and Claeys Ph., Trace element patterns and REE and Hf distribution among mineral phases in the CV-CK clan: a way to explain εHf variations in CHUR. 75th Annual Meteoritical Society Meeting, Cairns, Australia, 5254 Abstract, 2012.

Martin C., Lanari P., Debaille V., Goderis S., Vanhaecke F., Vidal O., and Claeys Ph., Trace-elements patterns and REE and Hf distribution among mineral phases in CK: a way to explain εHf variations in CHUR. 34th International Geological Congress, Brisbane, Australia.

Van Roosbroek, N., Goderis, S., Debaille, V., Valley, J. W., Claeys, Ph., Formation of the Mont dieu IIE non magmatic iron meteorite and origin of its silicate inclusions, Lunar and Planetary Science Conference XXXXIII, CD-ROM # 1773, 2012.

DLR

PEER REVIEWED

Grott, M., D. Baratoux, E. Hauber, V. Sautter, J. Mustard, O. Gasnault, S.W. Ruff, S.-I. Karato, V. Debaille, M. Knapmeyer, F. Sohl, T. Van Hoolst, D. Breuer, A. Morschhauser and M.J. Toplis (2013): Long-Term Evolution of the Martian Crust-Mantle System. Space Science Review, 172(1), pp. 49-111, doi:10.1007/s11214-012-9948-3.

Höning, D., H. Hansen-Goos, A. Airo and T. Spohn (2013) Biotic vs. abiotic Earth: A model for mantle hydration and continental coverage. Planetary Space Science, special issue 'Planetary evolution and life', doi:10.1016/j.pss.2013.10.004, in press.

Lammer H., E. Chassefière, Ö. Karatekin, A. Morschhauser, P. B. Niles, O. Mousis, P. Odert, U. V. Möstl, D. Breuer, V. Dehant, M. Grott, H. Gröller, E. Hauber, Lê Binh San Pham (2012): Outgassing History and Escape of the Martian Atmosphere and Water Inventory, Space Science Reviews, Vol. 174, Issue 1-4, pp 113-154, doi:10.1007/s11214-012-9943-8.

Laneuville, M., M. Wieczorek, D. Breuer, and N. Tosi (2013): Asymmetric thermal evolution of the Moon. Journal of Geophysical Research Planets, Vol. 118, Issue 6, pp. 1435–1452, doi:10.1002/jgre.20103,

Neumann, W., D. Breuer and T. Spohn (2013): The thermo-chemical evolution of Asteroid 21 Lutetia. Icarus, Vol. 224, Issue 1, pp. 126-143, doi:10.1016/j.icarus.2013.02.025.

Noack, L., and D. Breuer (2013) First- and second-order Frank-Kamenetskii approximation applied to temperature-, pressure- and stress-dependent rheology. Geophysical Journal International 2013, doi: 10.1093/gji/ggt248.

Noack, L., and D. Breuer (2013) Plate tectonics on rocky exoplanets: Influence of initial conditions and mantle rheology. Planetary and Space Science, doi: 10.1016/j.pss.2013.06.020.

Plesa, A.-C., D. Breuer and T. Spohn (2013): A Particle-in-Cell Method to Model the Influence of Partial Melt on Mantle Convection, High Performance Computing in Science and Engineering '12, doi:10.1007/978-3-642-33374-3_34.

Plesa, A.-C., and D. Breuer (2013) Partial melting in one-plate planets: Implications for thermo-chemical and atmospheric evolution. Planetary Space Science, special issue 'Planetary evolution and life', doi: 10.1016/j.pss.2013.10.007.

Plesa, A.-C., N. Tosi, and D. Breuer (2013) Magma Ocean Cumulate Overturn and its Implications for the Thermo-chemical Evolution of Mars. High Performance Computing in Science and Engineering '13, in press.

Shoji, D., H. Hussmann, K. Kurita and F. Sohl (2013): Ice rheology and tidal heating of Enceladus. Icarus, Vol. 226, pp. 10-19, doi:10.1016/j.icarus.2013.05.004.

Tosi, N., M. Grott, A.-C. Plesa, and D. Breuer (2013) Thermo-chemical evolution of Mercury's interior. Journal of Geophysical Research Planets, doi: 10.1002/jgre.20168.

Tosi, N., A. Plesa, and D. Breuer (2013): Overturn and evolution of a crystallized magma ocean: a numerical parameter study for Mars. Journal of Geophysical Research Planets, Vol. 118, Issue 7, pp. 1512–1528, doi:10.1002/jgre.20109.

Wagner, F.W., N. Tosi, F. Sohl, H. Rauer and T. Spohn (2012): Rocky super-Earth interiors. Structure and internal dynamics of CoRoT-7b and Kepler-10b. Astronomy and Astrophysics, 541 (A103), 1-13, doi: 10.1051/0004-6361/201118441.

BOOK, CHAPTER IN BOOK WITH INTERNATIONAL PEER-REVIEW

Noack L., and Tosi N., 2013, "High-Performance Modelling in Geodynamics. In: Integrated Information and Computing Systems for Natural.", Spatial, and Social Sciences, Editor: C.-P. Rückemann, IGI Global, Chapter 16, pp. 323-252, DOI: 10.4018/978-1-4666-2190-9, ISBN: 978-1-4666-2190-9.

Noack, L., and D. Breuer (2013): Interior and surface dynamics of terrestrial bodies and their implications for the habitability. In: "Habitability on other planets and satellites: The quest for extraterrestrial life", eds. J.-P. de Vera and F. Seckbach, Springer, ISBN: 978-94-007-6545-0.

INVITED ABSTRACTS – COMMUNICATIONS

Breuer, D. (2013): Core formation and magma oceans: from planetesimals to planets (invited talk). In: Gordon conference 'Interior of the Earth', 2.-7. June 2013, South Hadley, MA, USA.

Breuer, D. (2013): Interior structure and magnetism on Mars (invited talk). In: Mars Workshop, 20.-25. Oktober 2013, Les Houches, France.

Grott, M. (2013): The thermal evolution of Mercury (Invited talk). In: MESSENGER-BepiColombo Joint Science Meeting, 22-24 Apr. 2013, Chicago, USA.

Noack L. (2013): Formation of continents on early Earth (Invited talk). In: European Astrobiology Network Association (EANA), 22.-25. July 2013, Szczecin, Poland.

Spohn T. (2013): Thermal History of Planetary Objects: From Asteroids to Super Earths, from Plate-Tectonics to Life (invited talk), April 2013 Runcorn Florensky Medal Lecture, EGU.

Spohn T. (2013): Planetary Evolution and Life: Astrobiology from a Planetary Science Perspective (invited talk), Juni 2013 IAPS Shanghai

Spohn T. (2013): How Could Plato Serve Planetary Physics and What can we Learn From Solar System Planets for Terrestrial Exoplanets? (Invited talk) Juli 2013 Plato Workshop ESTEC

Spohn T. (2013): Thermal History of Planetary Objects: From Asteroids to Super Earths, from Plate-Tectonics to Life (invited talk), August 2013 SETI Institute, Palo Alto

Spohn T. (2013): Exploration of the Solar System (invited talk), November 2013 Space World Frankfurt

NORMAL ABSTRACTS - COMMUNICATIONS

Bierhaus, M., L. Noack, K. Wünnemann and D. Breuer (2013): Basin-Forming Impacts on Mars: Consequences on Mantle Dynamics (Talk). In: 44th Lunar and Planetary Science Conference, 18.-22. Mar. 2013, The Woodlands, Texas.

Bierhaus, M., L. Noack, K. Wünnemann and D. Breuer (2013): Basin-Forming Impacts on Mars: Consequences on Mantle Dynamics (Talk). In: 6th Alliance Week, 21.-24. May 2013, Berlin, Germany.

Coustenis, A., T. Encrenaz, O. Grasset, A. Solomonidou, F. Sohl, H. Hussmann, F.W. Wagner, F. Raulin, and D. Schulze-Makuch (2013): The exploration of habitable worlds with future space missions (Talk), 10th General Assembly of the Asia Oceania Geosciences Society (AOGS), 24.-28. June 2013, Brisbane, Australia.

Dehant, V., D. Breuer, P. Claeys, V. Debaille, J. De Keyser, E. Javaux, S. Goderis, O. Karatekin, N. Mattielli, L. Noack, T. Spohn, A. C. Vandaele, F. Vanhaecke, T. Van Hoolst, V. Wilquet and the the Planet Topers group Team (2013): PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their Reservoirs (Poster). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Dominic, D., T. Bocanegra, C. Bracken, M. Costa, I. Gerth, K. Konstantinidis, C. Labrianidis, M. Laneuville, A. Luntzer, J. MacArthur, A. Maier, A. Morschhauser, T. Nordheim, R. Sallantin and R. Tlustos (2013): Unveiling the evolution and formation of icy giants (Talk). In: 44th Lunar and Planetary Science Conference (LPSC), 18-22 March 2013, The Woodlands, Texas, USA.

Dominic, D., T. Bocanegra, C. Bracken, M. Costa, I. Gerth, K. Konstantinidis, C. Labrianidis, M. Laneuville, A. Luntzer, J. MacArthur, A. Maier, A. Morschhauser, T. Nordheim, R. Sallantin and R. Tlustos (2013): Unveiling the evolution and formation of icy giants (Talk). In: European Geosciences Union (EGU), 08.-12. April 2013, Vienna, Austria.

Dominic, D., T. Bocanegra, C. Bracken, M. Costa, I. Gerth, K. Konstantinidis, C. Labrianidis, M. Laneuville, A. Luntzer, J. MacArthur, A. Maier, A. Morschhauser, T. Nordheim, R. Sallantin and R. Tlustos (2013): Unveiling the evolution and formation of icy giants (Talk). In: European Planetary Space Congress (EPSC), 08.-13. September, London, United Kingdom.

Gail, H.-P., D. Breuer, T. Spohn, T. Kleine, M. Trieloff (2013): Early thermal evolution of planetesimals and its impact on processing and dating of meteoritic material (invited talk). In: Protoplanets and Stars VI, 15.-20. July 2013, Heidelberg, Germany, 2013.

Grott, M., A.-C. Plesa, and D. Breuer (2013): How can we constrain the amount of heat producing elements in the interior of Mars? (Poster). In: 2013 Fall Meeting, AGU, 9-13 December 2013, San Francisco, California, USA.

Grott M., J. Knollenberg, A. Maturilli, J. Helbert, N. Müller and E. Kührt (2013): Mineralogical Surface Characterization using the MASCOT Radiometer MARA on the Hayabusa 2 Mission (Poster). In: 44th Lunar and Planetary Science Conference (LPSC), 18-22 March 2013, The Woodlands, Texas, USA.

Grott M., J. Knollenberg, F. Hänschke, E. Kessler, N. Müller, A. Maturilli, J. Helbert and E. Kührt (2013):The MASCOT Radiometer MARA for the Hayabusa 2 Mission (Poster). In: 44th Lunar and Planetary Science Conference (LPSC), 18-22 March 2013, The Woodlands, Texas, USA.

Grott, M., J. Knollenberg, N. Müller, F. Hänschke, J. Helbert, E. Kührt and A. Maturilli (2013): MASCOT MARA: Science and Status. In: 2nd Hayabusa2 Joint Science Team Meeting, 19.-20. September 2013, JAXA Sagamihara Campus, Japan.

Haase, I., P. Gläser, M. Knapmeyer, J. Oberst and M. S. Robinson (2013): Improved Coordinates of the Apollo 17 Lunar Seismic Profiling Experiment (LSPE) Components (Poster). In: 44th Lunar and Planetary Science Conference (LPSC), 18-22 March 2013, The Woodlands, Texas, USA.

Hauber, E., M.Voelker, K. Gwinner, M.Knapmeyer, M. Grott and K.-D. Matz (2013): Fault scaling on Mars: Slip distribution and displacementlength relationship derived from HRSC data (Talk). In: European Planetary Space Congress (EPSC), 08.-13. September, London, United Kingdom.

Höning, D., and T. Spohn (2013): Considering Bioactivity in Modelling Continental Growth and the Earth's Evolution (Talk). In: European Planetary Space Congress (EPSC), 08.-13. September, London, United Kingdom.

Höning, D., and T. Spohn (2013): Modelling the Impact of Life on Continental Growth – Mechanisms and Results (Talk). In: American Geophysical Conference (AGU), 09.-13. December 2013, San Francisco, USA.

Höning, D., H. Hansen-Goos, A. Alessandro and T. Spohn (2013): Biotic vs. Abiotic Earth: A Model for Mantle Hydration and Continental Coverage (Talk). In: European Astrobiology Network Association (EANA), 22.-25. July 2013, Szczecin, Poland.

Höning, D., H. Hansen-Goos and T.Spohn (2013): Modelling the impact of the Earth's biosphere on continental growth (Talk). In: 6th Alliance Week, 21.-24. May 2013, Berlin, Germany.

Höning, D., H. Hansen-Goos and T. Spohn (2013): On the Impact of Life on the Evolution of Plate Tectonic Planets (Talk). In: Astrobiology Graduate Conference (AbGradCon), 10.-14. June 2013, Montreal, Canada.

Höning, D., H. Hansen-Goos and T. Spohn (2013): Subducted Sediments and Mantle Regassing - How Life Impacts the Earth's Geodynamics (Poster). In: European Geosciences Union (EGU), 08.-12. April 2013, Vienna, Austria.

Hüttig C., A.-C. Plesa and N. Tosi (2013): Can we approximate non-Newtonian rheology? (Poster). In: 13th International Workshop on Modelling of Mantle and Lithosphere Dynamics, 31.

August-5. September 2013, Honefoss, Norway.

Hüttig, C., N. Tosi and B. Moore (2013): An improved formulation for the incompressible Navier-Stokes equations with variable viscosity (Poster). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Jaumann R., J.P. Bibring, K.H. Glassmeier, M. Grott, T.-M. Ho, S. Ulamec, N. Schmitz, H.-U. Auster, J. Biele, H. Kuninaka, T. Okada, M. Yoshikawa, S. Watanabe, M. Fujimoto and T. Spohn (2013): A Mobile Asteroid Surface Scout (MASCOT) for the Hayabusa 2 Mission to 1999 JU3: The Scientific Approach (Poster). In: 44th Lunar and Planetary Science Conference (LPSC), 18-22 March 2013, The Woodlands, Texas, USA.

Knapmeyer, M., A. Czeluschke, N. Schmitz and F. Sohl (2013): ROBEX-ASN - Geophysical Experiment Scenario- Science Background (Talk). In: 38th DLR CEF Study (ROBEX-ASN), 22.-26. July 2013, Bremen, Germany.

Knapmeyer, M., T. Steinke, F. W. Wagner, and F. Sohl (2013): Seismological observables inferred from structural models of Mercury's interior (Poster). In: Geo.X Jahresversammlung 2013, 17. October, Berlin, Germany.

Morschhauser, A., V. Lesur and M. Grott (2013): A high-resolution spherical harmonic model of the Martian lithospheric magnetic field (Talk). In: European Planetary Space Congress (EPSC), 08.-13. September, London, United Kingdom.

Morschhauser, A., V. Lesur and M. Grott (2013): A spherical harmonic model of the Martian lithospheric magnetic field based on Mars Global Surveyor (MGS) data (Poster). In: Mars Workshop, 20.-25. Oktober 2013, Les Houches, France.

Neumann W., D. Breuer and T. Spohn (2013): Compaction and possible differentiation of asteroid 21 Lutetia (Talk). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Neumann, W., D. Breuer and T. Spohn (2013): Constraints against a porous CI chondritic Ceres (Poster). In: European Planetary Space Congress (EPSC), 08.-13. September, London, United Kingdom.

Neumann, W., D. Breuer and T. Spohn (2013): Constraints against a porous CI chondritic Ceres (Poster). In: Joint Workshop on High Pressure, Planetary, and Plasma Physics, 23.-25. October 2013, Berlin, Germany.

Neumann, W., D. Breuer and T. Spohn (2013): Differentiation and shallow magma ocean formation on Vesta (Talk). In: Workshop on Planetesimal formation and differentiation, 27.-29.October, Washington, DC, USA.

Neumann, W., D. Breuer and T. Spohn (2013): Differentiation of Vesta: Implications for a shallow magma ocean (Poster). In: Protoplanets and Stars VI, 15.-20. July 2013, Heidelberg, Germany, 2013.

Neumann W., D. Breuer and T. Spohn (2013): Early magma ocean and core formation on Vesta (Poster). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Neumann, W., D. Breuer and T. Spohn (2013): Magma ocean in planetesimals – the case of Vesta (Talk). In: Joint meeting “Paneth Kolloquium”, “The first 10 million years of the solar system” (DFG SPP 1385), 21.-23. October 2013, Nördlingen, Germany.

Neumann, W., D. Breuer and T. Spohn (2013): No global magma ocean in Vesta's mantle (Talk). In: European Planetary Space Congress (EPSC), 08.-13. September, London, United Kingdom.

Neumann, W., D. Breuer and T. Spohn (2013): On the modelling of compaction in planetesimals (Talk). In: European Planetary Space Congress (EPSC), 08.-13. September, London, United Kingdom.

Neumann, W., D. Breuer and T. Spohn (2013): Thermo-chemical evolution of ice-silicate bodies: Application to Ceres (Poster). In: Joint meeting “Paneth Kolloquium”, “The first 10 million years of the solar system” (DFG SPP 1385), 21.-23. Oct. 2013, Nördlingen, Germany.

Noack, L., and D. Breuer (2013): Plate tectonics on large exoplanets and the importance of the initial conditions (Talk). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Noack, L., M. Godolt, P. von Paris, A.-C. Plesa, B. Stracke, D. Breuer and Heike Rauer (2013): Constraints on planetary habitability from interior modelling (Poster). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Noack, L., M. Godolt, P. von Paris, A.-C. Plesa, B. Stracke, D. Breuer and H. Rauer (2013): Outgassing constraints related to the formation of CO2-dominated atmospheres (Talk). In: 6th Alliance Week, 21.-24. May 2013, Berlin, Germany.

Noack, L., T. Van Hoolst, D. Breuer and V. Dehant (2013): Self-consistent formation of continents on early Earth (Talk). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Plesa, A.-C., A. Morschhauser, M. Grott and D. Breuer (2013): Constraining the atmosphere evolution on terrestrial planets from interior outgassing (Talk). In: 6th Alliance Week, 21.-24. May 2013, Berlin, Germany.

Plesa, A.-C., and D. Breuer (2013): Partial melting and the efficiency of mantle outgassing in one-plate planets (Poster). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Plesa, A.-C., M. Grott and D. Breuer (2013): Can we constrain the present-day heat production rate with the HP3 heat flow measurement? In: Insight Team Meeting, 24-27 June 2013, Paris.

Plesa, A.-C., N. Tosi and D. Breuer (2013): Consequences of an unstable chemical stratification on mantle dynamics: magma ocean overturn and thermo-chemical evolution of Mars (Talk). In: Research Seminar of the Helmholtz Alliance 'Planetary Evolution and Life', 9. Jan. 2013, Berlin, Germany.

Plesa, A.-C., N. Tosi and D. Breuer (2013): Consequences of an unstable chemical stratification on mantle dynamics (Talk). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Plesa, A.-C., N. Tosi and D. Breuer (2013): Crystallization of a deep magma ocean and its consequence for planetary thermal evolution (Talk). In: Joint Workshop on High Pressure, Planetary and Plasma Physics, 23.-25. October 2013, Berlin, Germany.

Plesa, A.-C., N. Tosi and D. Breuer (2013): Formation of stable geochemical reservoirs: Implications for the thermo-chemical evolution of Mars (Poster). In: Joint Workshop on High Pressure, Planetary and Plasma Physics, 23.-25. October 2013, Berlin, Germany.

Plesa, A.-C., N. Tosi, and D. Breuer (2013): Magma Ocean Cumulate Overturn and its Implications for the Thermo-chemical Evolution of Mars (Talk). In: 2013 Fall Meeting, AGU, 9-13 December 2013, San Francisco, California, USA.

Rossi, A. P., E. Hauber, M. Spagnuolo, F. Fueten, M. Pondrelli, D. Breuer, M. Grott, M. Knapmeyer, C. Quantin Nataf and V. Unnithan (2013): Geological evidence and future detection of active tectonics on Mars (Talk). In: European Geosciences Union (EGU), 08.-12. April 2013, Vienna, Austria.

Rückriemen, T., D. Breuer and T. Spohn (2013): Key characteristics of the Fe-snow regime in Ganymede’s core (Poster). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Rückriemen, T., D. Breuer and T. Spohn (2013): Key characteristics of the iron snow regime in Ganymede's core (Talk). In: Ganymede Lander: Scientific Goals and Experiments, International Colloquium and Workshop, 4.-8. Mar. 2013, Moscow, Russia.

Rückriemen, Tina, D. Breuer and T. Spohn (2013): Key characteristics of the iron snow regime in

planetary cores (Poster). In: Joint Workshop on High Pressure, Planetary and Plasma Physics, 23.-25. October 2013, Berlin, Germany.

Rückriemen, Tina, D. Breuer and T. Spohn (2013): Magnetfeld am Beispiel Jupitermond Ganymed (Talk). In: Institutsüberprüfung, Insitut für Planetenforschung, 3.-4. September 2013, Berlin, Germany.

Sohl, F., A. Solomonidou, F.W. Wagner, A. Coustenis, H. Hussmann, and D. Schulze-Makuch (2013): Tides on Titan (Talk), 10th General Assembly of the Asia Oceania Geosciences Society (AOGS). 24.-28. June 2013, Brisbane, Australia.

Sohl, F., A. Solomonidou, F. W. Wagner, A. Coustenis, H. Hussmann, and D. Schulze-Makuch (2013). Diurnal tidal stresses on Titan (Talk). In: 8th European Planetary Science Congress (EPSC) 2013, 8.-13. September, London, United Kingdom.

Sohl, F. (2013): Tides and interior of Ganymede (Talk). In: GALA Team Meeting, 29.-30. August 2013, DLR Berlin, Germany.

Sohl, F., F.W. Wagner and H. Rauer (2013): How accurate are estimates of planetary bulk composition as inferred from determinations of planet mass and radius? (Talk). In: Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Verhandl. DPG (VI) 48, 1/2013, page 73, 25. Feb.-1. Mar. 2013, Jena, Germany.

Sohl, F., H. Hussmann and F.W. Wagner (2013): Tides on Ganymede (Talk). In: Ganymede Lander: Scientific Goals and Experiments, International Colloquium and Workshop, 4.-8. Mar. 2013, Moscow, Russia.

Sohl F., H. Hussmann, and F. W. Wagner (2013): Subsurface water oceans on icy Solar system bodies (Talk). In: Joint Workshop on High Pressure, Planetary, and Plasma Physics, 23.-25. October 2013, Berlin, Germany.

Sohl, F., T. Steinke, H. Hussmann, M. Knapmeyer, and F. W. Wagner (2013): Mercury's interior structure and tidal deformation (Talk). 10th General Assembly of the Asia Oceania Geosciences Society (AOGS), 24.-28. June 2013, Brisbane, Australia.

Solomonidou, A., A, Coustenis, E. Bratsolis, P. Drossart, G. Bampasidis, K. Kyriakopoulos, S. Le Mouelic, S. Rodriguez, M. Hirtzig, R. Jaumann, K. Stephan, R.M.C. Lopes, C. Sotin, R.H. Brown, F. Sohl, H. Hussmann, F.W. Wagner, D. Schulze-Makuch, K. Stamatelopoulou-Seymor and X. Moussas (2013): Cryovolcanic candidate areas and morphotectonic features on Saturn's satellite Titan (Poster). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Solomonidou, A., A. Coustenis, M. Hirtzig, E. Bratsolis, P. Drossart, G.Bampasidis, K. Kyriakopoulos, S. Le Mouélic, S. Rodriguez, K. Stephan, R. Jaumann, F. Sohl, F. W. Wagner, H. Hussmann, R. M. C. Lopes, C. Sotin, R. H. Brown, K. Stamatelopoulou-Seymour, and X. Moussas (2013): Surface albedo changes with time on Titan's possible cryovolcanic sites: Cassini/VIMS processing and geophysical implications (Talk). In: 8th European Planetary Science Congress (EPSC) 2013, 8.-13. September, London, United Kingdom.

Solomonidou, A., A, Coustenis, P. Drossart, R. Jaumann, K. Stephan, F. Sohl, H. Hussmann, M. Hirtzig, G. Bampasidis, E. Bratsolis, X. Moussas and K. Kyriakopoulos (2013): Candidate regions on Titan as promising landing sites for future in situ missions (Poster). In: 10th International Planetary Probe Workshop, 17.-21. June 2013, San Jose, California, USA.

Spohn T. (2013): The workings of rocky planet interiors, October 2013 High Pressure and Plasma Physics Workshop, Berlin

Steinke, T., F. Sohl, H. Hussmann, M. Knapmeyer and F. Wagner (2013): Interior Structure and Tidal Response of Mercury (Talk). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Steinke, T., F. Sohl, H. Hussmann, M. Knapmeyer and F.W. Wagner (2013): Modelling Mercury's interior structure and tidal deformation (Talk). In: 73. Jahrestagung der Deutschen Geophysikalischen Gesellschaft (DGG), page 227, 4.-7. March 2013, Leipzig, Germany.

Tosi, N, A.-C. Plesa, M. Laneuville, C. Hüttig and D. Breuer (2013): Thermo-chemical evolution of terrestrial bodies (Poster). In: Geo.X Jahresversammlung 17. October, 2013, Berlin, Germany.

Tosi, N., M. Grott, A.-C. Plesa, and D. Breuer (2013): Thermo-chemical evolution of Mercury's interior (Poster). In: 2013 Fall Meeting, AGU, 9-13 December 2013, San Francisco, California, USA.

Tosi, N., M. Grott, D. Breuer and A.-C. Plesa (2013): Mercury's thermo-chemical evolution constrained by MESSENGER observations (Talk). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria.

Wagner, F. W. (2013): Mantle rheology, internal dynamics and tidal heating of massive rocky exoplanets (Talk). In: Helmholtz Research Seminar, 30. October, Berlin, Germany.

Wagner, F. W. (2013): Mantle rheology, internal dynamics and tidal heating of massive rocky exoplanets (Talk). In: Joint Workshop on High Pressure, Planetary, and Plasma Physics, 23.-25. October 2013, Berlin, Germany.

Wagner, F. W., F. Sohl, and H. Hussmann (2013): Physical Structure and Tidal Distortion of Ganymede: Implications for the JUICE mission (Poster). In: 8th European Planetary Science Congress (EPSC) 2013, 8.-13. September, London, United Kingdom.

Wagner, F. W., F. Sohl, and H. Hussmann (2013): Physical Structure and Tidal Distortion of Ganymede: Implications for the JUICE mission (Poster). In: Geo.X Jahresversammlung 2013, 17. October, Berlin, Germany.

Wagner, F.W., N. Tosi, and F. Sohl (2013): The impact of transport properties on planetary structure and evolution (Talk). In: Kick Off Meeting for the Helmholtz International Beamline for Extreme Fields (HIBEF) at the European XFEL, 02.-05. June 2013, Hamburg, Germany.

List of co-publications

ROB – BISA – VUB – ULB – UGhent – ULg – DLR

PEER REVIEWED

Allan M, Beghin J, Le Roux G, Piotrowska N, Javaux E, Court-Picon M, Mattielli N, Verheyden S, Fagel N, 2013. Mid and Late Holocene dust deposition in Western Europe: the Misten peat bog (Hautes-Fagnes, Belgium). Climate of the past, 9, 2889-2928.

Belza J., Goderis S., Keppens E., Vanhaecke F., Claeys P., An emplacement mechanism for the mega-block zone within the Chicxulub crater (Yucatan, Mexico) based on chemostratigraphy, Meteoritics and Planetary Science, 47, 3, 400-412, 2012, DOI: 10.1111/j.1945-5100.2012.01345.x [IF 3.25]. → VUB + UGhent

Da Silva A., C., De Vleeschouwer D., Boulvain F., Claeys P., Fagel N., Humblet M., Mabille C., Michel J., Sardar Abadi M., Pas D., Dekkers M.J., Manetic Susceptibility as a high-resolution correlation tool and as a climatic proxy in Paleozoic rocks – merits and pitfalls: examples from the Devonian in Belgium, Marine and Petroleum Geology, 46, 173-189, 2013. [IF 2.397] http://dx.doi.org/10.1016/j.marpetgeo.2013.06.012. → VUB + UGhent

Dehant V., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Spohn T., Vandaele A.C., Vanhaecke F., Van Hoolst T., and Wilquet V., 2012, From Meteorites to evolution and habitability of planets, Planet. Space Sci., 72, 3-17, DOI: 10.1016/j.pss.2012.05.018. → ROB + BISA + VUB + ULB + UGhent + ULg + DLR

Goderis S., Simonson, B. M., McDonald, I., Hassler, S. W., Izmer, A., Belza*, J., Terryn, H., Vanhaecke, F., Claeys, P., Ni-rich spinels and platinum group element nuggets condensed from a Late Archaean impact vapour cloud, Earth and Planetary Science Letters, 376, 87-98, 2013, [IF 4.491], http://dx.doi.org/10.1016/j.epsl.2013.06.027, → VUB + UGhent

Goderis S., Tagle R., Belza J., Smit J., Montanari A., Vanhaecke F., Erzinger J., Claeys P., Reevaluation of siderophile element abundance and ratios across the Cretaceous-Paleogene (K-Pg) boundary: Implications for the nature of the projectile, IN PRESS Geochimica Cosmochimica Acta, 120, 417-446, 2013. [IF:4.41]. http://dx.doi.org/10.1016/j.gca.2013.06.010. → VUB + UGhent

Goderis S., Wittmann, A., Zaiss, J., Elburg, M., Ravissa, G., Vanhaecke F., Deutsch, A., Claeys P., Testing the ureilite projectile hypothesis for the El'gygytgyn impact: Determination of siderophile element abundances and Os isotope ratios, Meteoritics and Planetary Science, 48, 7, 1296-1324, 2013 DOI: 10.1111/maps.12047, [IF 2.8]. → VUB + UGhent

Grasset O., Dougherty M.K., Coustenis A., Bunce E., Erd C., Titov D., Blanc M., Coates A., Drossart P., Fletcher L., Hussmann H., Jaumann R., Krupp N., Lebreton J.P., Prieto-Ballesteros O., Tortora P., Tosi F., and Van Hoolst T., 2013, "JUpiter ICy moons Explorer (JUICE): an ESA mission to orbit Ganymede and to characterise the Jupiter system.", Planetary and Space Science, 78, 1-21. → ROB + DLR

Grott M., Baratoux D., Hauber E., Sautter V., Mustard J., Gasnault O., Ruff S. W., Karato S.-I., Debaille V., Knapmeyer M., Sohl F., Van Hoolst T., Breuer D., Morschhauser A., and Toplis M. J., 2013, "Long-Term Evolution of the Martian Crust-Mantle System.", Space Science Reviews, 174(1-4), pp. 49-111, DOI: 10.1007/s11214-012-9948-3. → ROB + DLR + ULB

Izmer A., Goderis S., Simonson B., McDonald I., Hassler S., Claeys P., Vanhaecke F., Application of laser ablation-ICP-mass spectrometry for 2-dimensional mapping of element distributions in a Late Archean impact spherule layer, Journal Analytical Atomic Spectrometry, 28, 1031-1038, 2013, DOI 10.1039/c3ja50045d, [IF 3.22]. → VUB + UGhent

Lammer H., Chassefière E., Karatekin Ö., Morschhauser A., Niles P.B., Mousis O., Odert P., Möstl U.V., Breuer D., Dehant V., Grott M., Gröller H., Hauber E., and Pham L.B.S., 2013,

"Outgassing History and Escape of the Martian Atmosphere and Water Inventory.", Space Sci. Rev., 174(1-4), pp. 113-154, DOI: 10.1007/s11214-012-9943-8. → ROB + DLR

Leblanc F., Chassefière E., Gillmann C., and Breuer D., 2012, "Mars' atmospheric 40Ar: A tracer for past crustal erosion.", Icarus, 218(1), pp. 561-570, DOI: 10.1016/j.icarus.2012.01.006. → ROB + DLR

Le Roux G., Fagel, N., De Vleeschouwer, F., Krachler, M., Debaille, V., Stille, P., Mattielli, N., Van der Knaap, W., Van Leeuwen, J. F., and Shotyk, W., Volcano- and climate-driven changes in atmospheric dust sources and fluxes since the Late Glacial in Central Europe. Geology, 40, 335-338, 2012. → VUB + ULB

Martin C., Debaille V., Lanari P., Goderis S., Vandendael I., Vanhaecke F., Vidal O., Claeys P., 2013, "REE and Hf distribution among mineral phases in the CV-CK clan: A way to explain present-day Hf isotopic variations in chondrites.", Geochimica et Cosmochimica Acta, 120, 496-513, 2013. [IF 4.41] http://dx.doi.org/10.1016/j.gca.2013.07.006. → VUB + UGhent + ULB

Noack L., and Breuer D., 2013, "Modelling mantle dynamics with a high-order Frank-Kamenetskii approximation of the viscosity.", Geophys. J. Int., 195(1), pp. 27-46, DOI: 10.1093/gji/ggt248. → ROB + DLR

Noack L., and Breuer D., 2013, "Plate tectonics on rocky exoplanets: Influence of initial conditions and rheology.", Planetary and Space Science, special issue 'Planetary evolution and life', DOI: 10.1016/j.pss.2013.06.020, in press. → ROB + DLR

Noack L., and Breuer D., 2013, "First- and second-order Frank-Kamenetskii approximation applied to temperature-, pressure- and stress-dependent rheology.", Geophysical Journal International 2013, doi: 10.1093/gji/ggt248. → ROB + DLR

Noack L., Breuer D., and Spohn T., 2012, "Coupling the atmosphere with interior dynamics: Implications for the resurfacing of Venus.", Icarus, 217(2), pp. 484-498, DOI: 10.1016/j.icarus.2011.08.026. → ROB + DLR

Noack L., Godolt M., von Paris P., Plesa A.-C., Stracke B., Breuer D., and Rauer H., 2013, "Constraints on planetary habitability from interior modeling.", Planetary and Space Science, special issue 'Planetary evolution and life', accepted. → ROB + DLR

Stamenković V., Noack L., Breuer D., and Spohn T., 2012, "The Influence of Pressure-dependent Viscosity on the Thermal Evolution of Super-Earths.", Astrophy. J., 748(1), article id. 41, 22 pp., DOI: 10.1088/0004-637X/748/1/41. → ROB + DLR

Wittmann A., Goderis S., Claeys P., Vanhaecke F., Deutsch A., Adolph L., 2013, "Petrology of impactites from El'gygytgyn crater: Breccias in ICDP-drill core 1C, glassy impact melt rocks and spherules.", Meteoritics and Planetary Science, 48, 7, 1199-1235, 2013 DOI: 10.1111/maps.12019 [IF 2.8]. → VUB + UGhent

BOOK, CHAPTER IN BOOK WITH INTERNATIONAL PEER-REVIEW

Noack L., and Tosi N., 2013, "High-Performance Modelling in Geodynamics. In: Integrated Information and Computing Systems for Natural.", Spatial, and Social Sciences, Editor: C.-P. Rückemann, IGI Global, Chapter 16, pp. 323-252, DOI: 10.4018/978-1-4666-2190-9, ISBN: 978-1-4666-2190-9. → ROB + DLR

Noack L., and Breuer D., 2013, "Interior and surface dynamics of terrestrial bodies and their implications for the habitability.", Book chapter in: Habitability on other planets and satellites: The quest for extraterrestrial life, series: "Cellular Origin, Life in Extreme Habitats and Astrobiology", Eds. J.-P. de Vera and F. Seckbach, Springer, ISBN: 978-94-007-6545-0, pp.

203-233. → ROB + DLR

Goderis S., Paquay F., Claeys, P., Projectile identification in terrestrial impact structures and ejecta material, *in* Impact Cratering: Process and Products, Chapter 15, P. 223 -235, Blackwell Publishing, 2012, ISBN: 978-1-4051-9829-5. → VUB + UGhent

NON REVIEWED PROCEEDINGS or PUBLICATIONS

Banerdt W.B., Smrekar S., Alkalai L., Hoffman T., Warwick R., Hurst K., Folkner W., Lognonné P., Spohn T., Asmar S., Banfield D., Boschi L., Christensen U., Dehant V., Giardini D., Goetz W., Golombek M., Grott M., Hudson T., Johnson C., Kargl G., Kobayashi N., Maki J., Mimoun D., Mocquet A., Morgan P., Panning M., Pike W.T., Tromp J., van Zoest T., Weber R., Wieczorek M., and the InSight Team, 2012, "INSIGHT: an integrated exploration of the interior of Mars.", Extended abstract, LPSC Houston 2012, the 43rd Lunar and Planetary Science Conference, The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, Texas, March 19-23, 2012. → ROB + DLR

Dehant V., Van Hoolst T., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin O., Mattielli N., Noack L., Spohn T., Vandaele A. C., Vanhaecke F., and Wilquet V., 2012, "Planet TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of Their Reservoirs.", 44th Lunar and Planetary Science Conference 2012, March 18-22, 2012 in The Woodlands, Texas, LPI Contribution No. 1719, p.2052. → ROB + BISA + VUB + ULB + UGhent + ULg + DLR

Dougherty M.K., Grasset O., Erd C., Titov D., Bunce E., Coustenis A., Blanc M., Coates A., Drossart P., Fletcher L., Hussmann H., Jaumann R., Krupp N., Prieto-Ballesteros O., Tortora P., Tosi F., and Van Hoolst T., 2012, "Jupiter ICy moons Explorer (JUICE): An ESA L-class mission candidate to the Jupiter system.", Extended abstract, LPSC Houston 2012, the 43rd Lunar and Planetary Science Conference, The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, Texas, March 19-23, 2012. → ROB + DLR

Grasset O., Prieto-Ballesteros O., Dougherty M.K., Titov D., Erd Ch., Bunce E., Coustenis A., Blanc M., Coates A., Drossart P., Fletcher L., Van Hoolst T., Hussmann H., Jaumann R., Krupp N., Tortora P., Tosi F., and Wielders A., 2012, "Habitability of the giant icy moons: current knowledge and future insights from the JUICE mission.", extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012. → ROB + DLR

Rosenblatt P., A. Mahieux, S. Bruinsma, V. Wilquet, Hakan Svedhem, I. Mueller-Wodarg, A.C. Vandaele, R. Drummond, S. Robert, and J.-L. Bertaux, 2012, "The Polar Upper Atmosphere of Venus Based on Observations from SOIR/VEX and the VExADE experiment.", extended abstract, Proc. European Planetary Science Congress 2012 EPSC2012, Madrid, Spain, September 23-28, 2012. → ROB + BISA

NORMAL ABSTRACTS - COMMUNICATIONS

Açıkalın S., Smit, J., Yılmaz, I O, Goderis, S., Vonhof, H. F. Ocakoğlu, F., Claeys, P., Fornaciari, E., S. Özkan Altıner, S., and Vellekoop, J., Isotopic and geochemical characterization of the K-Pg boundary sections from Central Sakarya Region, Turkey; a discussion on possible double impact, Geophysical Research Abstract, EGU2012-11556, 2012. → VUB + UGhent

Belza J., Goderis S., Smit J., Vanhaecke F., Baert K., and Claeys P. Micro-tektite spherules from proximal K-Pg sections: alteration patterns and clues to precursor melt lithologies. 2013. AGU meeting of the Americas, Cancun, May 14-17. → VUB + UGhent

Belza J., Goderis S., Vanhaecke F., and Claeys P. 2012. Spatially resolved geochemistry of K-Pg spherules. European Planetary Science Congress, Vol. 7, Abstract EPSC2012-788, 2012. →

VUB + UGhent

Belza J., Goderis, S., Smit, J., Vanhaecke, F., Claeys, P., High spatial resolution geochemistry of K-PG impact spherules, Geological Society of America, Abstract with programs, Vol. 44, 7, p. 534 (paper 225-6), 2012. → VUB + UGhent

Bierhaus, M., L. Noack, K. Wünnemann and D. Breuer, 2013, Basin-Forming Impacts on Mars: Consequences on Mantle Dynamics (Talk). In: 44th Lunar and Planetary Science Conference, 18.-22. Mar. 2013, The Woodlands, Texas. → ROB + DLR

Bierhaus, M., L. Noack, K. Wünnemann and D. Breuer, 2013, Basin-Forming Impacts on Mars: Consequences on Mantle Dynamics (Talk). In: 6th Alliance Week, 21.-24. May 2013, Berlin, Germany. → ROB + DLR

Da Silva A.C., Dekkers M. J., De Vleeschouwer, D., Claeys P., Boulvain, F., Magnetic susceptibility as a high-resolution correlation and paleoenvironmental tool in Palaeozoic records: merits and pitfalls. The Geological Society - High Fidelity: The Quest for Precision in Stratigraphy and its Application, Conference, 17th of May 2012, London, UK, 2012. → VUB + UGhent

Debaille V., Goderis S., Kaiden H., and Claeys P. 2011. Search for Antarctic Meteorites, Belgian Approach. Abstract volume 4th International Geologica Belgica Meeting, September 2012. → VUB + UGhent + ULB

Debaille, V., Imae, N., Claeys, P., Yamaguchi, A., Kojima, H., Debouge, W., Hublet, G., Mikoushi, T., Van Roosbroeck, N., Zekollari., H., The 2012-2013 joint field campaign for collecting meteorites in Antarctica: an efficient collaboration between Japan and Belgium, Abstract volume, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan November 14-15, 2013. → VUB + ULB

Dehant V., Van Hoolst T., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Mattielli N., Noack L., Spohn T., Vandaele A.C., Vanhaecke F., Wilquet V., and the Planet Topers group (see http://iuap-planet-topers.oma.be/partners.php), 2013, "PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.", LPSC, 44th Lunar and Planetary Science Conference, CD-ROM # 2052, The Woodlands, Texas, March 18-22, 2013. → ROB + BISA + VUB + ULB + UGhent + ULg + DLR

Dehant V., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Mattielli N., Noack L., Spohn T., Vandaele A.C., Vanhaecke F., Van Hoolst T., Wilquet V., and the Planet Topers group (see http://iuap-planet-topers.oma.be/partners.php), 2013, "PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.", European Geosciences Union (EGU) General Assembly 2013, Poster, Session PS8.1, Geophysical Research Abstracts, EGU-2103-4424,Vienna, Austria, April 8-12, 2013. → ROB + BISA + VUB + ULB + UGhent + ULg + DLR

Dehant V., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Mattielli N., Noack L., Spohn T., Vandaele A.C., Vanhaecke F., Van Hoolst T., Wilquet V., and the PLANET TOPERS group (see http://iuap-planet-topers.oma.be/partners.php), 2013, "PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.", Helmholtz Alliance Week, Berlin, Germany, May 21-23, 2013. → ROB + BISA + VUB + ULB + UGhent + ULg + DLR

Dehant V., Breuer D., Claeys P., Debaille V., De Keyser J., Javaux E., Goderis S., Karatekin Ö., Mattielli N., Noack L., Spohn T., Vandaele A.C., Vanhaecke F., Van Hoolst T., Wilquet V., and the PLANET TOPERS group (see http://iuap-planet-topers.oma.be/partners.php), 2013, "PLANET TOPERS: Planets, Tracing the Transfer, Origin, Preservation, and Evolution of their ReservoirS.", European Planetary Science Congress 2013, v. 8, EPSC2013-732, University College London, London, United Kingdom, September 8-13, 2013. → ROB + BISA + VUB +

ULB + UGhent + ULg + DLR

Goderis S., Tagle, R., Belza, J., Smit, J., Montanari, A., Vanhaecke, F., Erzinger, J., Claeys, P., Can siderophile element abundances and ratios across the K-PG boundary be used to discriminate between possible types of projectiles, Lunar and Planetary Science Conference XXXXIV, CD-ROM # 2167, 2013. → VUB + UGhent

Goderis S., Simonson, B. M., McDonald, I., Hassler, S. W., Izmer, A., Vanhaecke, F., Claeys, P., Geochemical correlation of two late Archean impact spherule layers between South Africa and Western Australia: The Paraburdoo-Reivilo link, Lunar and Planetary Science Conference XXXXIII, CD-ROM # 1882, 2012. → VUB + UGhent

Goderis S., Tagle, R., Belza, J., Smit, J., Montanari, A., Vanhaecke, F., Erzinger, J., Claeys, P., Reevaluation of siderophile element abundances and ratios across the Cretaceous-Paleogene (K-PG) boundary: implications for the nature of the projectile, Geological Society of America, Abstract with programs, Vol. 44, 7, p. 534 (paper 225-7), 2012. → VUB + UGhent

Imae N., Akada Y., Claeys P., Debaille V., Goderis S., Hublet G., Kojima H., Martin C., Mikouchi T., Van Roosbroek N., Yamaguchi A., Zekollari H., The plan of the search for Antarctic Meteorites on the Nansen Ice Field by the Joint Expedition between JARE-54 and BELARE 2012-2013, 35th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan November 29-30, 2012. → VUB + UGhent + ULB

Izmer A., Goderis S., Simonson B.M., McDonald I., Hassler S.W., Claeys P., and Vanhaecke F. 2012. Application of Laser Ablation ICP-MS for 2-Dimensional Mapping of Element Distributions in a Late Archean Impact Spherule Layer. 11th European Workshop on Laser Ablation, Gijon, Spain, June 19 – 22, 2012. → VUB + UGhent

Javaux E.J., Asael D, Bekker A, Debaille V, Derenne S, Hofmann A, Mattielli N, and Poulton S. Identifying early Earth microfossils in unsilicified sediments. Geophysical Research Abstracts Vol. 15, EGU2013-7748-2, 2013. EGU General Assembly 2013, Vienna 7-12 April 2013. → VUB + UGhent + ULB

Martin C., Debaille V., Lanari P., Goderis S., Vanhaecke F., Vidal O., and Claeys P., Trace element patterns and REE and Hf distribution among mineral phases in the CV-CK clan: a way to explain εHf variations in CHUR. 75th Annual Meteoritical Society Meeting, Cairns, Australia, 5254 Abstract, 2012. → VUB + UGhent + ULB

Martin C., Lanari P., Debaille V., Goderis S., Vanhaecke F., Vidal O., and Claeys P., Trace-elements patterns and REE and Hf distribution among mineral phases in CK: a way to explain εHf variations in CHUR. 34th International Geological Congress, Brisbane, Australia. → VUB + UGhent + ULB

Noack L., Van Hoolst T., Breuer D., and Dehant V., 2013, “Relevance of continents for habitability and self-consistent formation of continents on early Earth.”, 13th International Workshop on Modelling of Mantle and Lithosphere Dynamics, Hønefoss, Norway, 31 August-5 September, 2013. → ROB + DLR

Noack, L., and D. Breuer, 2013, Plate tectonics on large exoplanets and the importance of the initial conditions (Talk). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria. → ROB + DLR

Noack, L., T. Van Hoolst, D. Breuer and V. Dehant, 2013, Self-consistent formation of continents on early Earth (Talk). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria. → ROB + DLR

Noack, L., M. Godolt, P. von Paris, A.-C. Plesa, B. Stracke, D. Breuer and Heike Rauer, 2013, Constraints on planetary habitability from interior modelling (Poster). In: EGU General Assembly 2013, 8.-12. Apr. 2013, Vienna, Austria. → ROB + DLR

Noack, L., M. Godolt, P. von Paris, A.-C. Plesa, B. Stracke, D. Breuer and H. Rauer, 2013, Outgassing constraints related to the formation of CO2-dominated atmospheres (Talk). In: 6th Alliance Week, 21.-24. May 2013, Berlin, Germany. → ROB + DLR

Noack L., Godolt M., von Paris P., Plesa A.-C., Stracke B., Breuer D., and Rauer H., 2013, "Constraints on planetary habitability from interior modelling.", European Planetary Science Congress 2013, University College London, London, United Kingdom, September 8-13, 2013. → ROB + DLR

Noack L., Godolt M., van Paris P., Stracke B., Plesa A.-C., Breuer D., and Rauer H., 2012, "Outgassing rates of exoplanets limited by geodynamics.", 5th Alliance Week of the HGF Alliance PEL, Berlin, Germany, October 29-November 2, 2012. → ROB + DLR

Noack L., Van Hoolst T., Dehant V., and Breuer D., 2012, "Build-up of continents and the H2O/CO2 cycle.", PLANET meeting, ROB, Brussels, Belgium, December 19, 2012. → ROB + DLR

Pittarello L., Debaille, V., DeVos, W., Claeys, P., Ordinary chondrites classification by Raman spectroscopy, Abstract volume, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan November 14-15, 2013. → VUB + ULB

Pittarello, L., Debaille, V., DeVos, W., Claeys, P., Ordinary chondrites classification by Raman spectroscopy, Abstract volume, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan, 2013. → VUB + ULB

Titov D.V., Dougherty M.K., Grasset O., Erd Ch., Bunce E., Coustenis A., Blanc M., Coates A., Drossart P., Fletcher L., Van Hoolst T., Hussmann H., Jaumann R., Krupp N., Prieto-Ballesteros O., Tortora P., Tosi F., and Wielders A., 2012, "JUpiter Icy moons Explorer: an ESA mission to the Jovian system.", Third Moscow Solar System Symposium (3M-S3), October 8-12, 2012. → ROB + DLR

Van Roosbroeck N., Debaille, V., Goderis, S., Valley, J. W., Spicuzza, M J., Claeys, P., Formation of the IIE non magmatic iron meteorites, Goldschmidt 2013 abstract volume p. 2399, 2013. → VUB + ULB

Van Roosbroek N., Goderis, S., Debaille, V., Valley, J. W., Claeys, P., Formation of the Mont dieu IIE non magmatic iron meteorite and origin of its silicate inclusions, Lunar and Planetary Science Conference XXXXIII, CD-ROM # 1773, 2012. → VUB + ULB

Van Roosbroek N., Debaille V., Goderis S., Valley J.W., Spicuzza M. J., Claeys P., Formation of the Mont Dieu IIE non-magmatic iron meteorite, 36th Symposium on Antarctic Meteorites, National Institute of Polar Research, Tokyo, Japan, 2013. → VUB + ULB

Van Roosbroek N., Debaille V., Goderis S., Valley J., Spicuzza M., and Claeys P., Formation of the IIE Non Magmatic Iron Meteorites, Goldschmidt Conference, Florence, Italie, 2013. → VUB + ULB

Wittmann A., Goderis, S., Claeys, P., Elburg, M., Vanhaecke, F., Ravizza, G., Deutsch, A., Depositional record of pristine impactites and traces of the projectile in El Gygytgyn crater, Lunar and Planetary Science Conference XXXXIII, CD-ROM # 1999, 2012. → VUB + UGhent

OTHER

Gloesener E., Karatekin Ö., and Dehant V., 2013, "Le méthane et les clathrates sur Mars.", Ciel et Terre, 129, pp. 1-11. → ROB + BISA

Javaux E.J., and Dehant V., 2013. FNRS contact group and IAP PLANET TOPERS joined workshop "Astrobiology: from stars and planet to extreme life", Abstracts and Program, ROB

Brussels March 18th 2013. → ROB + ULg

Javaux E.J., and Dehant V., 2012. FNRS contact group workshop “Astrobiology: from stars and planet to extreme life”, Abstracts and Program, ROB Brussels February 14th 2012. → ROB + ULg