

(1) Highly cited papers published during 2020–2024

As of 2 October 2025

50 papers

: Past awardee of the EPS Excellent Paper Award

: Past awardee of the EPS Young Researcher Award

- Full paper **569** cites

International Geomagnetic Reference Field: the thirteenth generation

P. Alken, E. Thébault, C. D. Beggan, H. Amit, J. Aubert, J. Baerenzung, T. N. Bondar, W. J. Brown, S. Califf, A. Chambodut, A. Chulliat, G. A. Cox, C. C. Finlay, A. Fournier, N. Gillet, A. Grayver...

Earth, Planets and Space 2021 **73**:49

Published on: 11 February 2021

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- Full paper **282** cites

The CHAOS-7 geomagnetic field model and observed changes in the South Atlantic Anomaly

Christopher C. Finlay, Clemens Kloss, Nils Olsen, Magnus D. Hammer, Lars Tøffner-Clausen, Alexander Grayver and Alexey Kuvshinov

Earth, Planets and Space 2020 **72**:156

Published on: 20 October 2020

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- Frontier letter **191** cites

MOWLAS: NIED observation network for earthquake, tsunami and volcano

Shin Aoi, Youichi Asano, Takashi Kunugi, Takeshi Kimura, Kenji Uehira, Narumi Takahashi, Hideki Ueda, Katsuhiko Shiomi, Takumi Matsumoto and Hiroyuki Fujiwara

Earth, Planets and Space 2020 **72**:126

Published on: 7 September 2020

[Full Text](#)

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- Frontier Letter **100** cites

Nonlinear wave growth theory of whistler-mode chorus and hiss emissions in the magnetosphere

Yoshiharu Omura

Earth, Planets and Space 2021 **73**:95

Published on: 20 April 2021

The [Correction to this article](#) has been published in *Earth, Planets and Space* 2021 **73**:121

[Full Text](#)

[PDF](#)

- Frontier Letter 91 cites

Martian moons exploration MMX: sample return mission to Phobos elucidating formation processes of habitable planets

Kiyoshi Kuramoto, Yasuhiro Kawakatsu, Masaki Fujimoto, Akito Araya, Maria Antonietta Barucci, Hidenori Genda, Naru Hirata, Hitoshi Ikeda, Takeshi Imamura, Jörn Helbert, Shingo Kameda, Masanori Kobayashi, Hiroki Kusano, David J. Lawrence, Koji Matsumoto, Patrick Michel...

Earth, Planets and Space 2022 **74**:12

Published on: 20 January 2022

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- Full paper 86 cites

CM6: a comprehensive geomagnetic field model derived from both CHAMP and Swarm satellite observations

Terence J. Sabaka, Lars Tøffner-Clausen, Nils Olsen and Christopher C. Finlay

Earth, Planets and Space 2020 **72**:80

Published on: 5 June 2020

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[PDF](#)

- Full paper 74 cites

Preparation zones for large crustal earthquakes consequent on fault-valve action

Richard H. Sibson

Earth, Planets and Space 2020 **72**:31

Published on: 4 March 2020

[Full Text](#)

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- Express Letter 64 cites

Slip distribution of the 2024 Noto Peninsula earthquake (M_{JMA} 7.6) estimated from tsunami waveforms and GNSS data

Yushiro Fujii and Kenji Satake

Earth, Planets and Space 2024 **76**:44

Published on: 18 March 2024

[Full Text](#)

[PDF](#)

- Full paper 60 *cites*

Quality over quantity: on workflow and model space exploration of 3D inversion of MT data

K. Robertson, S. Thiel and N. Meqbel

Earth, Planets and Space 2020 **72**:2

Published on: 7 January 2020

[Full Text](#)

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- Full paper 52 *cites*

Electromagnetic conjugacy of ionospheric disturbances after the 2022 Hunga Tonga-Hunga Ha'apai volcanic eruption as seen in GNSS-TEC and SuperDARN Hokkaido pair of radars observations

Atsuki Shinbori, Yuichi Otsuka, Takuya Sori, Michi Nishioka, Septi Perwitasari, Takuo Tsuda and Nozomu Nishitani

Earth, Planets and Space 2022 **74**:106

Published on: 13 July 2022

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- Full paper 52 *cites*

Probing 3-D electrical conductivity of the mantle using 6 years of Swarm, CryoSat-2 and observatory magnetic data and exploiting matrix Q-responses approach

Alexey Kuvshinov, Alexander Grayver, Lars Tøffner-Clausen and Nils Olsen

Earth, Planets and Space 2021 **73**:67

Published on: 9 March 2021

The [Correction to this article](#) has been published in *Earth, Planets and Space* 2021 **73**:94

[Full Text](#)

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- Frontier letter 49 *cites*

Frictional and structural controls of seismic super-cycles at the Japan trench

Sylvain Barbot

Earth, Planets and Space 2020 **72**:63

Published on: 11 May 2020

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[PDF](#)

- Full paper 48 cites

COV-OBS.x2: 180 years of geomagnetic field evolution from ground-based and satellite observations

Loïc Huder, Nicolas Gillet, Christopher C. Finlay, Magnus D. Hammer and Hervé Tchooungui

Earth, Planets and Space 2020 **72**:160

Published on: 23 October 2020

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- Full paper 46 cites

Ionospheric signatures of repeated passages of atmospheric waves by the 2022 Jan. 15 Hunga Tonga-Hunga Ha'apai eruption detected by QZSS-TEC observations in Japan

Kosuke Heki

Earth, Planets and Space 2022 **74**:112

Published on: 20 July 2022

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- Express Letter 46 cites

Characteristics of the deep sea tsunami excited offshore Japan due to the air wave from the 2022 Tonga eruption

Yuichiro Tanioka, Yusuke Yamanaka and Tatsuya Nakagaki

Earth, Planets and Space 2022 **74**:61

Published on: 24 April 2022

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- Express Letter 46 cites

Very broadband strain-rate measurements along a submarine fiber-optic cable off Cape Muroto, Nankai subduction zone, Japan

Satoshi Ide, Eiichiro Araki and Hiroyuki Matsumoto

Earth, Planets and Space 2021 **73**:63

Published on: 4 March 2021

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- Express Letter [45](#) cites

[Crustal structure beneath earthquake swarm in the Noto peninsula, Japan](#)

Junichi Nakajima

Earth, Planets and Space 2022 **74**:160

Published on: 1 November 2022

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- Full paper [43](#) cites

[Magnetic observations from CryoSat-2: calibration and processing of satellite platform magnetometer data](#)

Nils Olsen, Giuseppe Albini, Jerome Bouffard, Tommaso Parrinello and Lars Tøffner-Clausen

Earth, Planets and Space 2020 **72**:48

Published on: 9 April 2020

[Full Text](#)

[PDF](#)

- Express Letter [41](#) cites

[Anatomy of active volcanic edifice at the Kusatsu–Shirane volcano, Japan, by magnetotellurics: hydrothermal implications for volcanic unrests](#)

Kuo Hsuan Tseng, Yasuo Ogawa, Nurhasan, Sabri Bülent Tank, Naoto Ujihara, Yoshimori Honkura, Akihiko Terada, Yoshiya Usui and Wataru Kanda

Earth, Planets and Space 2020 **72**:161

Published on: 23 October 2020

The [Correction to this article](#) has been published in *Earth, Planets and Space* 2022 **74**:81

[Full Text](#)

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- Full paper [40](#) cites

[The MMX rover: performing in situ surface investigations on Phobos](#)

Patrick Michel, Stephan Ulamec, Ute Böttger, Matthias Grott, Naomi Murdoch, Pierre Vernazza, Cecily Sunday, Yun Zhang, Rudy Valette, Romain Castellani, Jens Biele, Simon Tardivel, Olivier Groussin, Laurent Jorda, Jörg Knollenberg, Jan Thimo Grundmann...

Earth, Planets and Space 2022 **74**:2

Published on: 3 January 2022

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- Full paper 40 cites

Structural control and system-level behavior of the seismic cycle at the Nankai Trough

Qibin Shi, Sylvain Barbot, Shengji Wei, Paul Tapponnier, Takanori Matsuzawa and Bunichiro Shibazaki

Earth, Planets and Space 2020 **72**:27

Published on: 2 March 2020

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- Full paper 39 cites

In situ science on Phobos with the Raman spectrometer for MMX (RAX): preliminary design and feasibility of Raman measurements

Yuichiro Cho, Ute Böttger, Fernando Rull, Heinz-Wilhelm Hübers, Tomàs Belenguer, Anko Börner, Maximilian Buder, Yuri Bunduki, Enrico Dietz, Till Hagelschuer, Shingo Kameda, Emanuel Kopp, Matthias Lieder, Guillermo Lopez-Reyes, Andoni Gaizka Moral Inza, Shoki Mori...

Earth, Planets and Space 2021 **73**:232

Published on: 19 December 2021

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- Full paper 39 cites

The CSES global geomagnetic field model (CGGM): an IGRF-type global geomagnetic field model based on data from the China Seismo-Electromagnetic Satellite

Yanyan Yang, Gauthier Hulot, Pierre Vigneron, Xuhui Shen, Zeren Zhima, Bin Zhou, Werner Magnes, Nils Olsen, Lars Tøffner-Clausen, Jianpin Huang, Xuemin Zhang, Shigeng Yuan, Lanwei Wang, Bingjun Cheng, Andreas Pollinger, Roland Lammegger...

Earth, Planets and Space 2021 **73**:45

Published on: 11 February 2021

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- Full paper 39 cites

Significant enhancements of secondary cosmic rays and electric field at the high mountain peak of Lomnický Štít in High Tatras during thunderstorms

J. Chum, R. Langer, J. Baše, M. Kollárik, I. Strhárský, G. Diendorfer and J. Rusz

Earth, Planets and Space 2020 **72**:28

Published on: 2 March 2020

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- Full paper 38 *cites*

Development of a detection method for short-term slow slip events using GNSS data and its application to the Nankai subduction zone

Yutaro Okada, Takuya Nishimura, Takao Tabei, Takeshi Matsushima and Hitoshi Hirose

Earth, Planets and Space 2022 **74**:18

Published on: 24 January 2022

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- Express Letter 38 *cites*

Catalog of small repeating earthquakes for the Japanese Islands

Toshihiro Igarashi

Earth, Planets and Space 2020 **72**:73

Published on: 29 May 2020

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- Full paper 37 *cites*

Science operation plan of Phobos and Deimos from the MMX spacecraft

Tomoki Nakamura, Hitoshi Ikeda, Toru Kouyama, Hiromu Nakagawa, Hiroki Kusano, Hiroki Senshu, Shingo Kameda, Koji Matsumoto, Ferran Gonzalez-Franquesa, Naoya Ozaki, Yosuke Takeo, Nicola Baresi, Yusuke Oki, David J. Lawrence, Nancy L. Chabot, Patrick N. Peplowski...

Earth, Planets and Space 2021 **73**:227

Published on: 15 December 2021

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- Full paper 37 *cites*

The Kalmag model as a candidate for IGRF-13

Julien Baerenzung, Matthias Holschneider, Johannes Wicht, Vincent Lesur and Sabrina Sanchez

Earth, Planets and Space 2020 **72**:163

Published on: 29 October 2020

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- Full paper 37 cites

Evidence for terrane boundaries and suture zones across Southern Mongolia detected with a 2-dimensional magnetotelluric transect

Matthew J. Comeau, Michael Becken, Johannes S. Käüfl, Alexander V. Grayver, Alexey V. Kuvshinov, Shoovdor Tserendug, Erdenechimeg Batmagnai and Sodnomsambuu Demberel

Earth, Planets and Space 2020 **72**:5

Published on: 16 January 2020

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- Full paper 36 cites

Regional probabilistic tsunami hazard assessment associated with active faults along the eastern margin of the Sea of Japan

Iyan E. Mulia, Takeo Ishibe, Kenji Satake, Aditya Riadi Gusman and Satoko Murotani

Earth, Planets and Space 2020 **72**:123

Published on: 3 September 2020

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- Express Letter 34 cites

Ionospheric disturbances observed over Japan following the eruption of Hunga Tonga-Hunga Ha'apai on 15 January 2022

Susumu Saito

Earth, Planets and Space 2022 **74**:57

Published on: 21 April 2022

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- Full paper 34 cites

Solar activity dependence of medium-scale traveling ionospheric disturbances using GPS receivers in Japan

Yuichi Otsuka, Atsuki Shinbori, Takuya Tsugawa and Michi Nishioka

Earth, Planets and Space 2021 **73**:22

Published on: 20 January 2021

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- Full paper **34** cites

Landslide detection in mountainous forest areas using polarimetry and interferometric coherence

Masato Ohki, Takahiro Abe, Takeo Tadono and Masanobu Shimada

Earth, Planets and Space 2020 **72**:67

Published on: 13 May 2020

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- Full paper **34** cites

Submarine landslide source models consistent with multiple tsunami records of the 2018 Palu tsunami, Sulawesi, Indonesia

Kenji Nakata, Akio Katsumata and Abdul Muhari

Earth, Planets and Space 2020 **72**:44

Published on: 3 April 2020

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- Frontier Letter **33** cites

New GEONET analysis strategy at GSI: daily coordinates of over 1300 GNSS CORS in Japan throughout the last quarter century

Naofumi Takamatsu, Hiroki Muramatsu, Satoshi Abe, Yuki Hatanaka, Tomoaki Furuya, Yasuaki Kakiage, Kazuyuki Ohashi, Chiaki Kato, Keitaro Ohno and Satoshi Kawamoto

Earth, Planets and Space 2023 **75**:49

Published on: 6 April 2023

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- Technical report **33** cites

Evaluation of candidate models for the 13th generation International Geomagnetic Reference Field

P. Alken, E. Thébault, C. D. Beggan, J. Aubert, J. Baerenzung, W. J. Brown, S. Califf, A. Chulliat, G. A. Cox, C. C. Finlay, A. Fournier, N. Gillet, M. D. Hammer, M. Holschneider, G. Hulot, M. Korte...

Earth, Planets and Space 2021 **73**:48

Published on: 11 February 2021

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- Full paper 32 cites

Spatial and temporal influence of rainfall on crustal pore pressure based on seismic velocity monitoring

Rezкия Dewi Andajani, Takeshi Tsuji, Roel Snieder and Tatsunori Ikeda

Earth, Planets and Space 2020 **72**:177

Published on: 24 November 2020

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- Full paper 32 cites

Surface displacement revealed by L-band InSAR analysis in the Mayya area, Central Yakutia, underlain by continuous permafrost

Takahiro Abe, Go Iwahana, Petr V. Efremov, Alexey R. Desyatkin, Takumi Kawamura, Alexander Fedorov, Yuri Zhegusov, Kazuki Yanagiya and Takeo Tadono

Earth, Planets and Space 2020 **72**:138

Published on: 22 September 2020

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- Express Letter 32 cites

Bridging the gap between low-frequency and very-low-frequency earthquakes

Koki Masuda, Satoshi Ide, Kazuaki Ohta and Takanori Matsuzawa

Earth, Planets and Space 2020 **72**:47

Published on: 7 April 2020

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- Full paper 32 cites

Improved shift-invariant sparse coding for noise attenuation of magnetotelluric data

Guang Li, Xiaoqiong Liu, Jingtian Tang, Juzhi Deng, Shuanggui Hu, Cong Zhou, Chaojian Chen and Wenwu Tang

Earth, Planets and Space 2020 **72**:45

Published on: 6 April 2020

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- Frontier Letter 31 cites

Wave-particle interaction effects in the Van Allen belts

Daniel N. Baker

Earth, Planets and Space 2021 **73**:189

Published on: 19 October 2021

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- Full paper **31** cites

Sequential modelling of the Earth's core magnetic field

Guillaume Ropp, Vincent Lesur, Julien Baerenzung and Matthias Holschneider

Earth, Planets and Space 2020 **72**:153

Published on: 21 October 2020

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- Express Letter **31** cites

Detection of deep low-frequency earthquakes in the Nankai subduction zone over 11 years using a matched filter technique

Aitaro Kato and Shigeki Nakagawa

Earth, Planets and Space 2020 **72**:128

Published on: 9 September 2020

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- Full paper **30** cites

MIRS: an imaging spectrometer for the MMX mission

Maria Antonietta Barucci, Jean-Michel Reess, Pernelle Bernardi, Alain Doressoundiram, Sonia Fornasier, Michel Le Du, Takahiro Iwata, Hiromu Nakagawa, Tomoki Nakamura, Yves André, Shohei Aoki, Takehiko Arai, Elisa Baldit, Pierre Beck, Jean-Tristan Buey, Elisabet Canalias...

Earth, Planets and Space 2021 **73**:211

Published on: 6 December 2021

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- Express Letter **30** cites

Shallow tectonic tremor activities in Hyuga-nada, Nankai subduction zone, based on long-term broadband ocean bottom seismic observations

Yusuke Yamashita, Masanao Shinohara and Tomoaki Yamada

Earth, Planets and Space 2021 **73**:196

Published on: 25 October 2021

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- Full paper 30 cites

Acceleration mechanism of radiation belt electrons through interaction with multi-subpacket chorus waves

Ryoko Hiraga and Yoshiharu Omura

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- Frontier Letter 29 cites

A quest for unrest in multiparameter observations at Whakaari/White Island volcano, New Zealand 2007–2018

Corentin Caudron, Tàrsilo Girona, Arthur Jolly, Bruce Christenson, Martha Kane Savage, Roberto Carniel, Thomas Lecocq, Ben Kennedy, Ivan Lokmer, Alexander Yates, Ian Hamling, Iseul Park, Geoff Kilgour and Agnès Mazot

Earth, Planets and Space 2021 **73**:195

Published on: 21 October 2021

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- Full paper 29 cites

Operational solar flare prediction model using Deep Flare Net

Naoto Nishizuka, Yûki Kubo, Komei Sugiura, Mitsue Den and Mamoru Ishii

Earth, Planets and Space 2021 **73**:64

Published on: 5 March 2021

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- Full paper 29 cites

Relationship between large-scale ionospheric field-aligned currents and electron/ion precipitations: DMSP observations

Chao Xiong, Claudia Stolle, Patrick Alken and Jan Rauberg

Earth, Planets and Space 2020 **72**:147

Published on: 16 October 2020

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- Frontier letter 29 *cites*

[Co-estimation of geomagnetic field and in-orbit fluxgate magnetometer calibration parameters](#)

Patrick Alken, Nils Olsen and Christopher C. Finlay

Earth, Planets and Space 2020 **72**:49

Published on: 14 April 2020

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