

Recent activity of data publication and data citation in the international community of geomagnetism

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Data-DOI (digital object identifier), data publication, and data citation will promote “Open Science” . Recognizing their importance, solar-terrestrial physics (STP) data centers in Japan have been working to mint DOI to their database. We participated from October 2014 in a 1-year pilot program for DOI-minting to science data launched by Japan Link Center, which is one of the DOI registration agencies. In the pilot program, a procedure of the DOI-minting for STP data was established. As a result of close collaboration with Japan Link Center, the first case of data-DOI in Japan (doi:10.17591/55838dbd6c0ad) was created in June 2015. As of February 2019, there are 18 data-DOIs for the STP data in Japan. Four of them are related to geomagnetic field data: the Dst index (doi:10.17593/14515-74000), the AE index (doi:10.17593/15031-54800), the Wp index (doi:10.17593/13437-46800), and magnetotelluric data at Muroto, Japan (doi:10.17593/13882-05900).

In the International Association of Geomagnetism and Aeronomy (IAGA), scientists who are working for data centers or observatories started discussion about DOI-minting to their data and a task force was formed in August 2013. In the latest IAGA assembly that was held at Cape Town in August 2017, the task force reported about "Present Status of DOI-minting to Geomagnetic Data/Indices" that is available from <https://www.ngdc.noaa.gov/IAGA/vdat/>. The report found that there are different types of activities of DOI-minting in individual data centers or observatories. In the field of geophysics including geomagnetism, interests to the DOI-minting are rapidly growing. At the next International Union Geodesy and Geophysics General Assemblies that will be held in Montreal, Canada, in July 2019, a joint session entitled “Geoscience data licensing, producing, publication and citation” is planned. This session solicits contributions presenting actual practices and future plans of data licensing, producing, publication, and citation of scientific data, and possible related topics. The international effort will be continued for DOI-minting to scientific data in geophysics.