

Recent activity of DOI-minting to solar-terrestrial physics data in Japan

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The Japanese government has found an importance of "Open Science" and is now going to promote its associated activities in Japan. In the end of March 2015, a report entitled "Promoting Open Science in Japan" was published by the expert panel on Open Science, based on Global Perspectives, Cabinet Office. According to the report, research data should be made openly available, although they are subject to constraints that ensure ethical, legal, and commercial protections. To accelerate data availability, it is needed to prepare data identifiers, such as digital object identifiers (DOIs), and to foster a practice of citation for research data. This is because the citation for research data provides the following benefits: (1) Readers can more easily locate the data used in the paper, obtain necessary information of the data (i.e., metadata), and validate the findings of the paper; (2) readers can also easily discover datasets which are relevant to their interests but have not been noticed; and (3) data contributors/data centers can gain professional recognition and rewards for their labors to publish and manage data set in the same way as for traditional publications.

Recognizing the importance of data citation, World Data Centers (WDCs) in Japan including WDC for Geomagnetism (Kyoto University) and WDC for Ionosphere and Space Weather (National Institute of Information and Communications Technology) started discussion to mint DOI to their own database in August 2013. The discussion finds that Japan Link Center (JaLC) is a proper agency to register DOI-URL mapping, because JaLC aims at public information services to promote science and technology in Japan and it handles scientific and academic metadata and content from holders nationwide, including national institutes and universities. We develop a web-based system to register metadata with JaLC and to create landing pages of data, to which DOIs are mapped. The system can handle version of the landing pages when the data are updated. JaLC started a 1-year pilot program to mint DOI to the database from October 2014. We have been participating in the program, resulting in DOIs for the mesospheric wind velocity data observed with MF radar at Poker Flat, Alaska (doi:10.17591/55838dbd6c0ad) and the geomagnetic Dst index (doi:10.17593/14515-74000). These are the first practices of the DOI-minting to scientific data in Japan. One of these DOIs is even cited in a paper by Kinoshita et al. (2015), providing the first example of data citation in Japan. We will present our activities of DOI-minting to solar-terrestrial physics data in Japan and discuss its future perspective.

Reference

Kinoshita, T., Y. Murayama, and S. Kawamura (2015), Tidal modulations of mesospheric gravity wave kinetic energy observed with MF radar at Poker Flat Research Range, Alaska, *J. Geophys. Res. Atmos.*, 120, 6379-6390, doi:10.1002/2014JD022647.