

A 2015 Igrf Candidate Model Based on Swarm's Experimental ASM Vector Mode Data

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Abstract:

Each of the three Alpha, Bravo and Charlie satellites of the ESA Swarm mission carries an Absolute Scalar Magnetometer (CNES customer furnished ASM instrument designed by CEA-Léti) that provides the nominal 1 Hz scalar data of the mission, but also delivers 1 Hz experimental vector data. Tests during the commissioning and calibration/validation phase have shown that these data and the rigidity of the boom mechanically linking the ASM to the star imager (STR) on Alpha and Bravo were of such good quality that an IGRF candidate geomagnetic field model could possibly be produced from such ASM-only data (without having to resort to any of the nominal vector field magnetometer (VFM) data of the mission). In this presentation, we will report on our efforts to build such an IGRF candidate, which intends to provide an image of the January 1, 2015 Geomagnetic Field, alternative to the images provided by IGRF candidate models based on Swarm nominal L1b data, or other data.