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SEM001-P08

Room:Convention Hall

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Equivalent Pole Reduction: concept and advantages

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We developed Equivalent Pole Reduction (EPR) method for restoring the 3-d distributions of the lunar magnetic field from the satellite data (Lunar Prospector and Kaguya). It is essentially a variant of equivalent source method. It uses magnetic monopoles instead of widely used magnetic dipoles.

The EPR has several advantages to the Equivalent Source Dipole (ESD) method. Ease of calculation, stability of inversion and small edge effects are some of the advantages. It has large advantage with the satellite or airborne data in which the altitude is not always pre-determined, but will work with other data like shipborne or microscale measurements since it uses advantages of the nature of potential field.

Keywords: Magnetic mapping, Equivalent source method, Planetary magnetism