



Magnetisation model of the lunar crust

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The lunar-wide magnetic anomaly maps derived from the Lunar Prospector data have revealed strong anomaly features over highlands while only weak features are seen over mare regions in the near side of the Moon. The lunar anomalies are modelled through a forward modelling approach by computing a vertically integrated magnetization model of the Moon. The paleomagnetic measurements of the samples acquired during the Apollo mission, geological regions of the Moon and thickness of the crust estimated from the inversion of lunar gravity models are integrated to compute a lunar crustal magnetization model. The vector components of the magnetic field are simulated from this magnetisation model using the forward model and are compared with the corresponding field components of the lunar-wide magnetic anomaly maps. The causative sources of the magnetic anomalies, in particular the thickness, magnetisation and geological extent are modified to match the observed anomalies. The sources causing anomalies over a few Mare basins will be discussed.