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First Observations of Lunar Gravity by GRAIL

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The GRAIL Discovery mission to map the lunar gravity field is expected to begin its mapping operations in early March, 2012. After a 3-month cruise, a lunar orbit insertion at the turn of the year, followed by a final set of maneuvers to reduce the altitude to 55km, the twin spacecraft will be ready to begin inter-satellite ranging. The prime mission of the GRAIL is a nominal 3 months and the sensitivity of the twin GRAIL spacecraft to lunar gravity is expected to be two or three orders of magnitude better than presently available at the medium to short wavelengths. The latest results from the mission will be presented.