



Simulation of the Radio Science Observations during the close flybys of Rosetta at the asteroids Lutetia and Steins

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The Rosetta spacecraft will pass two asteroids, Steins in 2008 and Lutetia in 2010 on its way to comet 67/P Churyumow-Gerasimenko. Lutetia is the bigger asteroid with a diameter of about 100 km compared to Steins (10 km). The closest flyby distances at Lutetia and Steins are 3000 km and 1700 km, respectively.

A simulation of the gravity measurements to be observed by the Radio-Experiment RSI onboard of Rosetta during the flyby will be presented. This will provide information about the feasibility of the observations. An inversion method will be presented to analyze the gravity measurements also for other close flybys, e.g. Mars-Express at the Mars moon Phobos.