



Mercury's exosphere: Na observations and simulations, a case study

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Recent observations of the Na exosphere of Mercury [*Barbieri et al.*, this session] are compared to the Na neutral density profile as derived by a single particle model of the Hermean exosphere. This is meant in order to investigate the spatial configuration in light of the effective processes of exospheric refilling acting on the planet. The observations have been taken with the SARG high resolution spectrograph at TNG (Canaries) in June-July 2005, and analyzed by using a devoted procedure. The model involves all the major surface sources, (including ion and photon sputtering, thermal desorption and micro meteoritic impacts) and losses (including precipitation, escape, photo-ionization and charge-exchange) has been used. The ion distribution around Mercury has been modeled by considering the IMF conditions during the observations, in order to obtain the necessary boundary conditions for sources and losses.