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

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Recent observations of the Na exosphere of Mercury [*Barbieri* et al., EGU 2006] are compared to the Na column density 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. 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). The ion distribution around Mercury has been modeled by considering the IMF conditions during the observations [Massetti et al., this session], in order to obtain the necessary boundary conditions for sources and losses.