https://doi.org/10.1051/0004-6361/202038592

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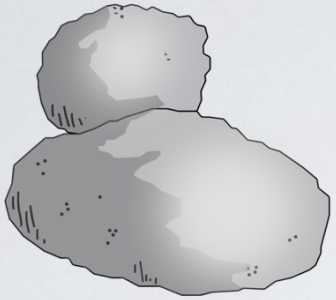
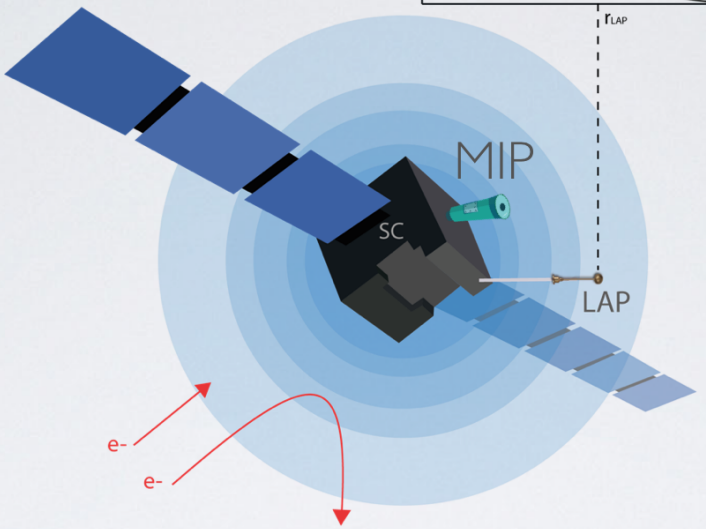
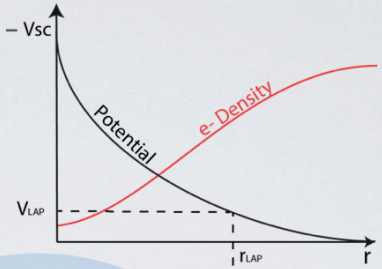
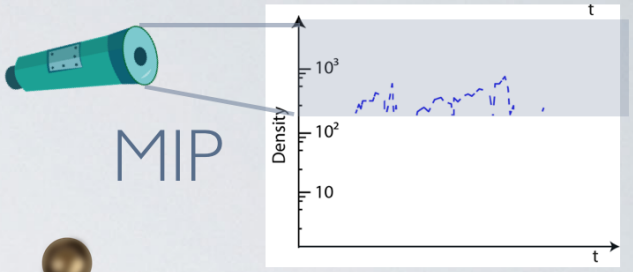
Rosetta

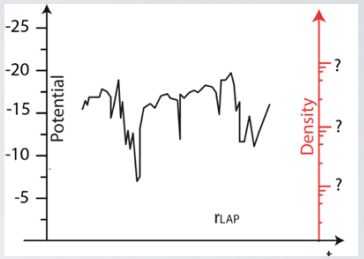


Comet 67P

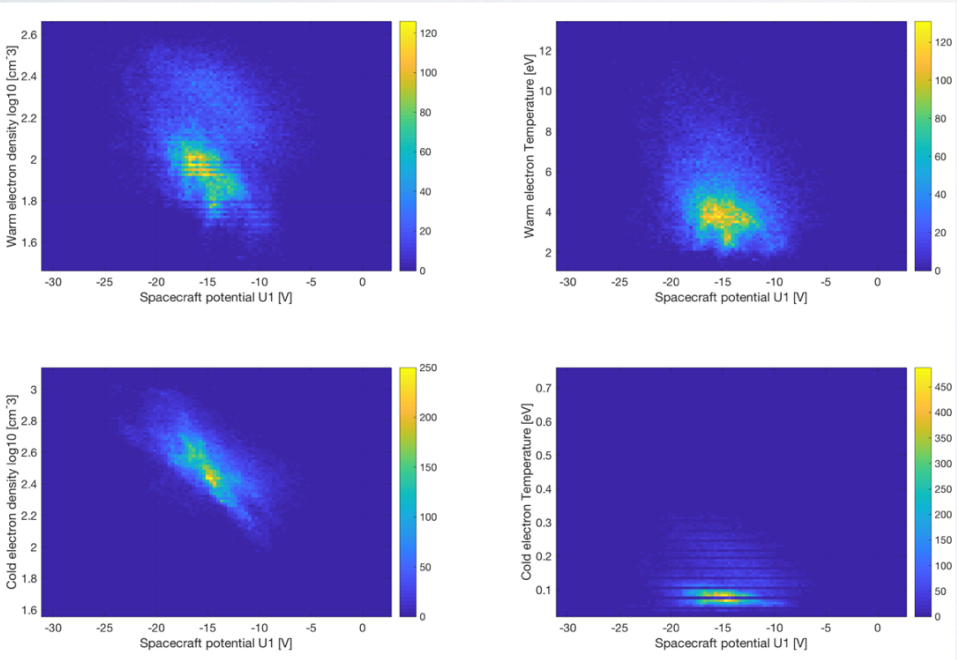


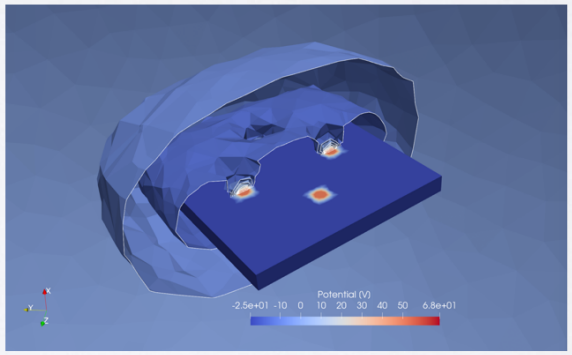






Spacecraft potential $\approx -T_e \ln\left(n_e\sqrt{T_e}\right)$? Doesn't seem to work! Onto simulations:





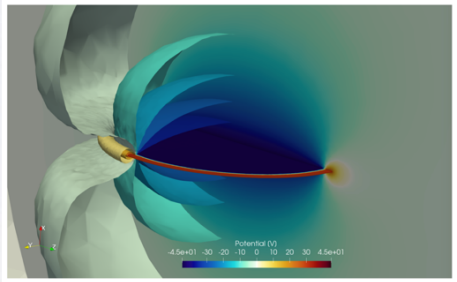


Fig. 10. 3-D Visualisation of electrostatic potential structure for the SPIS +75 V concentric disks (a = 1.17 m , b = 1.25 m) simulation, coloured by electrostatic potential. To illustrate the potential in the volume, we plot the potential along the X-Z plane, as well as 10 equipotential surfaces from -30 V to +25 V, cut in the X-Y plane.

The final (complicated) model shows that small positive elements (+75V) at the edges of the solar panel explains how the spacecraft potential is modulated by (primarily) 0.1 eV electrons, and reaches up to -30V