



## **Nano dust in the solar wind: interactions and dynamics**

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Dust particles of sizes smaller than 100 nm (nano dust) are generated in the interplanetary medium by collisional fragmentation of larger dust and meteoroids. As a result of their surface charge these dust particles can be accelerated in the solar wind. We discuss the charging process of the nano dust in the solar wind and plausible values of surface charge. We study the trajectories of the nano dust applying an equation of motion that includes solar gravitation, the Poynting-Robertson force and the Lorentz force term. Our calculations show that the dust that is released in circular orbits in the vicinity of the sun is often trapped, while the dust that is released at larger distance is accelerated. We discuss in detail the trapping conditions as well as the flux of the ejected particles near Earth orbit.