

Abstract Submitted  
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**Charging of cosmic dust in a plasma**<sup>1</sup> MOHIT NIGAM, CRISTIAN LLERENA , Middlesex College — The data from the Voyager spacecrafts as they left our Sun's heliosphere has raised interest in the composition of interstellar medium and its interaction with plasma at the boundary of our heliosphere and interstellar space. One of the proposed missions, the Interstellar Probe [1], is designed to explore this boundary region. Inevitably the probe will pass through a comprehensive plasma before it reaches interstellar medium that is thought to consist of UV radiation and energetic neutral particles (ENA) [1]. In this study, the interaction of dust with plasma and radiation is investigated. This involves studying the evolution of the plasma potential on the surface of the dust particle as a function of plasma property, secondary ion emissions and photoelectron emissions. [1] [https://interstellarprobe.jhuapl.edu/uploadedDocs/papers/588-ISP-Study-2019-Report\\_PR.pdf](https://interstellarprobe.jhuapl.edu/uploadedDocs/papers/588-ISP-Study-2019-Report_PR.pdf)

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