

Charge and Levitation of Grains in Plasma Sheath with Dust Thermic Emission

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Abstract: By taking into account thermic emission current from hot dust surface, the problem involved in dust charging and levitation of dust grains in plasma sheath has been researched. The results are compared to that without including thermal emission current while the system parameters are same. It is found that the thermal emission current has played a significant role on modifying the dust charging and balance levitations. Both of the charging numbers of dust and the dust radius in balance are dramatically reduced. The stability of dust levitation is also analyzed and discussed.

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