



## **Modeling the secondary emission yield of salty ice dust grains**

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Secondary emission is one of important processes leading to dust grain charging in many plasma environments. The secondary yield varies with the grain material, shape, and size. Several laboratory experiments confirmed that the yield of small grains differs from that of planar samples. Among other materials, ices of different compositions can be frequently found in the interplanetary space and/or planetary magnetospheres. However, the admixtures can significantly influence the band structure of such materials and thus change their yield. We present numerical simulations that provide a realistic description of the secondary emission process from water ice grains. The simulation reveals that the secondary emission yield increases as the grain dimension decreases. The yield of backscattered primary electrons approaches unity and the grain can be charged to high positive potentials under these conditions. On the other hand, any reasonable admixture of NaCl does not alter secondary electron emission properties significantly.