



Charge Distribution of Ejected Particles after Impact Splash on Mars: A Laboratory Approach

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We present laboratory measurements for the charge distribution of dust to sand sized particles that are ejected in small-scale sand grain impacts, simulating saltation bombardement events on the Martian surface. Using a high speed camera, tracking particles within an electric field, we determined charges of individual grains characterizing single grain impacts. While the charge of small particles seems to have random polarity, larger particles show some bias toward positive charges. Such preference could lead to a charge separation in the free air stream and thus to the establishment of an electric field near the surface, aiding further lifting as e.g. proposed by Renno&Kok 2008* and Holstein-Rathlou et al. 2010**.

*Renno, N. O., & Kok, J. F. 2008, *SSRv*, 137, 419, doi: 10.1007/s11214-008-9377-5

**Holstein-Rathlou, C., Gunnlaugsson, H. P., Merrison, J. P., et al. 2010, *Journal of Geophysical Research: Planets*, 115, doi: 10.1029/2009JE003411