Geophysical Research Abstracts,
Vol. 10, EGU2008-A-05745, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-05745
EGU General Assembly 2008

A new flat-plate saltation sensor for studies in aeolian research

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Careful observations have revealed that sand transport by wind is a highly dynamic process characterized by intermittent bursts of saltation activity interspersed with periods of inactivity. To study such a dynamic process requires instrumentation capable of high-frequency sampling of sediment movement. This paper reports on a new field instrument developed through a cooperative effort between the USDA-Agricultural Research Service and the Sensit Company. The new instrument is best described as a flat-plate piezoelectric saltation sensor that detects saltating grains as they skip across the flat face of the sensor. The flat-plate design provides some advantages over the conventional cylindrical saltation sensors. Tests of the new sensor are underway and some results and conclusions will be presented.