Sandstorms Go Electric - Sandstorms produce oxygen on Mars

By: Gabriel Gache, Science News Editor

It seems that wind action alone is not enough to account for the observed effects during sandstorms, thus scientists went searching for an alternative explanation, which strangely could also lift the mystery hovering above some weird effects seen on the Red Planet. It is a well-known fact that bodies rubbing against each other can generate electric charges, by stripping electrons one from the other. The same effect has been known to exist in sandstorms for years.

The new study made at the University of Michigan reveals that such electrification process could determine electric fields, with intensities as high as 200,000 volts per meter, at a height of about one centimeter above the surface, which practically lifts grains of sand up into the air. Furthermore, the negatively charged sand particles still on the ground are attracted by the positive charge hovering above them, which triggers even more sand to lift up.

As the wind speed increases even further, the electrical field intensity grows even more. Though it doesn't seem to be a very interesting effect, sand saltation could present crucial information related to the clime.

The same model developed at the University of Michigan could also explain the increased oxygen emissions observed on Mars, when sand encounters water. It seems that the electrical field generated by the movement of the sand is powerful enough to break up the hydrogen and the oxygen bonds in water molecules, through a process similar to that of electrolysis.
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