# Abstracts

## Miniature low power submillimeter-wave spectrometer for detection of water in the Solar System

*O. Boric-Lubecke, R.F. Denning, M.A. Janssen and M.A. Frerking. "Miniature low power submillimeter-wave spectrometer for detection of water in the Solar System." 1997 MTT-S International Microwave Symposium Digest 2. (1997 Vol. II [MWSYM]): 569-572.*

Mass and power for the next generation of NASA's heterodyne spectrometers must be greatly reduced to satisfy the constraints of future small-spacecraft missions. We report on a 220 GHz Schottky-diode receiver, which requires less than 4.8 W, and has a mass of less than 1.5 kg- more than a factor of ten reduction in mass and power compared to current instruments. This significant savings was achieved through minimizing the number of receiver components, without compromising on the functionality necessary for a surface based Mars atmospheric sounding instrument.

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