

EXPERIMENTS ON DUST COLLECTION FOR A COMETARY MISSION

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Experiments presently conducted at the Martin Marietta Denver facility to collect cometary dust during a Tempel 2 flyby are reviewed. It is shown that a number of viscid materials are quite suitable to collect particles up to 50 μm diameter at speeds up to 50 m/s. First results are presented for the more complicated setups using nonviscid metal surfaces for the collection of dust. These targets allow the use of surface analysis techniques for a more elaborate chemical analysis of the collected dust particles.

DISCUSSION

Fechtig: Is it possible to collect at least micron-sized cometary dust using clean metals without any oil or grease on the surface?

Kissel: Yes; this is possible but the experiments reported here were not suitable for investigation of collection efficiency for submicron particles.