Particle Size and Shape of Lunar Dust Particles

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Summary

The particle sizing analysis for one of the samples of lunar fines supplied (12057,72) has been completed by means of woven wire sieves, micro mesh sieves, sedimentation, optical and electron microscope examination. The data obtained has enabled the characteristic curve relating the percentage weight undersize and the corresponding particle size to be constructed over the size range 0.1 μm to 860 μm.

The problem of defining numerically the particle shape is more complex, as new techniques had to be devised. However, considerable progress has been made in determining the number of particles per milligram for each of more than 20 closely graded size fractions into which the sample has been sub-divided. The numerical values of the various shape coefficients which define the angularity and irregularity in shape, also the degree of flatness or elongation are being calculated for each size fraction of the particles. The results will indicate whether or not the particle shape varies significantly with particle size.

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