A COMPARISON OF THE MEASURED SCATTERING MATRIX ELEMENTS OF POLYDISPERSE SYSTEMS OF IRREGULAR PARTICLES WITH THE MATRIX ELEMENTS CALCULATED FOR SPHERES THAT HAVE THE SAME DISTRIBUTION OF PROJECTED AREAS

A. C. Holland[0], P. J. Hofman[+] and W. A. Munn[+]

ABSTRACT

The elements of the scattering or Mueller Matrix for three polydisperse systems of irregular, randomly-oriented particles have been measured in absolute terms as a function of scattering angle for several visible wavelengths. The samples consisted of commercially available silicon dioxide particles that fit three distinct lognormal size distributions.

The measured matrix elements were compared with the matrix elements calculated for spheres that had the same refractive index and fitted the same distribution of projected areas. Correlations and discrepancies between the two sets of matrix elements will be discussed.

0 NASA/Wallops Station

+ Smithsonian Astrophysical Observatory