Abstract

A laser based light scattering system has been designed and fabricated for measuring the scattering properties of small particles as a function of scattering angle at the He Ne laser of wavelength 632.8nm.An attempt was made to experimentally determine the scattering matrix elements using randomly and linearly polarized laser beam. The system consist of a 16 highly sensitive silicon detector which can measure scattered light signals from 10 to170 degree in stepm of 10 degree.Thesignals are interfaced to high gain 16 channel preamplifier and a data aquistition system for data analysis.The performance of the set up was examined by studying the characteristics of graphite and carbon black particals.

Keywords:Light scattering,Mie theory.