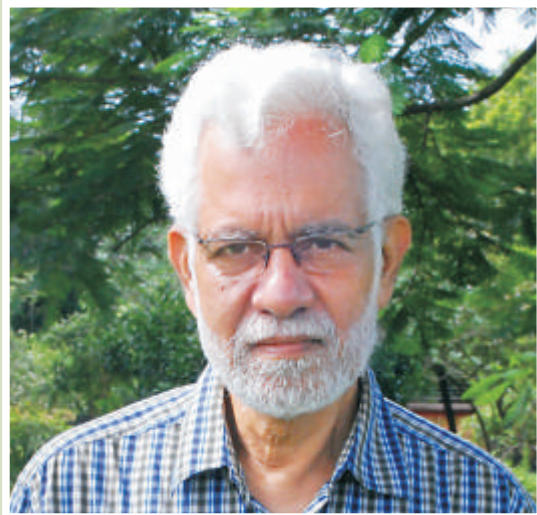


Subodh Kumar Sharma

Emeritus Professor
sharma@bose.res.in



Dr. Sharma obtained his Ph.D working at Saha Institute of Nuclear Physics in 1977. He worked at BITS Pilani, SINP Kolkata, IWMED Kolkata, UWCC Cardiff, Imperial College London and S N Bose Centre for Basic Sciences. He co-authored a book (with Dr. D J Somerford of UWCC) "Light Scattering by optically soft particles: Theory and Applications" published by Springer Praxis.

- ▶ **Biomedical tissue characterization using light scattering technique**
- ▶ **Study of interstellar medium from analysis of X-ray halos around stars**

The electromagnetic radiation emitted by a star arrives at the observer after interacting with interstellar medium including dust grains. The knowledge of nature of these grains is of importance for answering multiple astrophysical questions. We have recently, started studies on models for halo formation around X-ray emitting stars.

A widely used approximation in these studies is the Rayleigh-Gans-Debye approximation. However, its applicability is limited to energies greater than about 1KeV. We have proposed a modification to this approximation to broaden its range of applicability.

| Future Plan

Studies on both the areas of interest will continue. Specifically, we will continue our efforts to look into how we can obtain information on scatterers from the X-ray scattering data.

| Publication in Journal

1. **S K Sharma**, *Scattering approximations in X-ray halo analysis*, Asian Journal of Physics, **24**, 8:1087-1094, 2015.