

# ***EPSR: a tool for the disordered (and not so disordered) states of matter***

***Alan Soper***

***ISIS Facility, Rutherford Appleton Laboratory, Harwell Campus, Oxfordshire (UK)***

Abstract:

Radiation total scattering experiments have come a long way in the past decade or so. New instrumentation at x-ray and neutron sources is providing unprecedented access to a whole range of complex materials that once would have been impossible to examine by this method. An increasingly important aspect of the experiment is the ability to model the scattering data realistically and atomistically, much in the same way that Hugo Rietveld did for crystalline materials some 50 years previously. EPSR is one such modeling strategy that has become increasingly popular in the disordered materials community, and has demonstrated great adaptability to tackle new challenges, such as porous materials, diffuse scattering from crystals, and the structure of semi-crystalline polymers. The talk will highlight and give examples of some of these recent developments.