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Hierarchical polymer nanocomposite structures in SANS and SESANS

Tuesday 21 March 2023 16:00 (2 hours)

Carbon based polymer nanocomposites have many useful applications and the change in the physical properties of the modified composite from that of the raw polymer is of significant importance. In this presentation I will discuss a series of polymer-carbon composites (graphene oxide, carbon black, carbon nanoparticles) measured using both SANS and SESANS and apply a number of different approaches to quantify the structure of these hierarchical systems.

In principle a combination of SANS and SESANS has the ability to probe from ~1nm to ~10 microns and this presents challenges in modelling. We discuss these approaches and present models for these various systems.

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