

SAXS/SANS hybrid approach

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Small-angle scattering (SAS) is one of powerful tools to analyze structure and/or dynamics of biomolecules in solution. There are mainly two probes for SAS, X-ray and Neutron. In general, SAXS is a more familiar technique than SANS because neutron beam intensity is lower than X-ray and the number of SANS facilities is less than that of SAXS facilities. Very roughly speaking, SAXS is suitable to observe the whole structure and its modulation of biomolecule whereas SANS is able to measure a partial structure of biomolecules by utilizing contrast variation method with H₂O/D₂O mixture in solvent and/or the deuteration of domains and proteins. In this presentation, I mainly introduce a recent neutron scattering technique and its results by helping SAXS results: The research example is structure and dynamics of aB-Crystallin in crowding system.