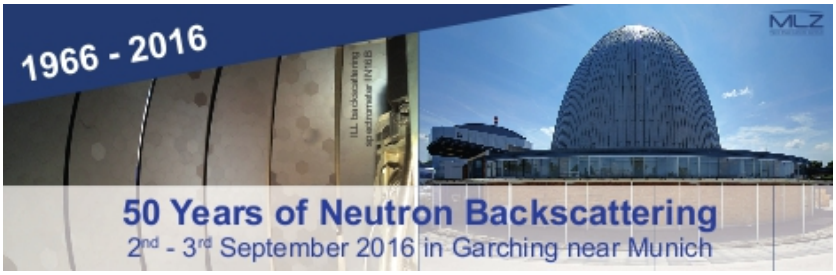

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Science from the High Flux Backscattering Spectrometer

Friday, 2 September 2016 16:50 (15 minutes)

The high flux backscattering spectrometer (HFBS) at NIST has been operational since the late 1990s. Over the last decade and a half, a number of current scientific topics have seen significant advancement using the HFBS. In this talk I am going to focus mainly on three topics - I will start with polymer dynamics which will include segmental dynamics of homopolymers and influence on it by a variety of media e.g. other homopolymer and nanoparticle surfaces. In low molecular weight materials, water outweighs any other small molecule and has been a topic of choice for several decades and as a result, a considerable progress has been made on the water dynamics in various media e.g. under geometrical confinement and in the form of hydration water in biomolecules. I will also discuss briefly dynamics of various biomolecules e.g. RNA and specifically proteins. Lastly, I will touch upon hydrogen dynamics in metal complexes e.g. in borohydrides.

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Session Classification: Science overview from Backscattering Workhorses