

# High-resolution dynamics studied via nuclear resonant scattering

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The recent and future advances in the development of third-generation synchrotron radiation sources should allow to perform inelastic x-ray scattering experiments with energy resolutions in the micro-eV range. This opens new avenues for the study of dynamics on mesoscopic length scales that determine the properties of artificially structured or self-assembled materials. Instrumental requirements and selected applications will be discussed.