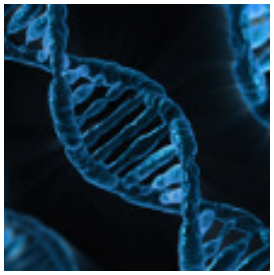

Contribution ID: **65** Type: **Oral presentation**

Contributed talk 6 - Low radiation dose XPCS for dynamic studies of biological matter

Tuesday 5 June 2018 16:50 (20 minutes)

X-ray photon correlation spectroscopy (XPCS) measures nanoscale dynamics in real time by correlations of X-ray speckle patterns. The speckle patterns yield access to density-density correlation functions and also to higher order correlation functions. However, the highly intense X-ray beams of modern storage rings are also the cause for considerable radiation damage to the samples. Traditionally, XPCS experiments are performed with radiation doses of MGy to GGy, many orders of magnitude higher than tolerable for biological samples. We demonstrated recently [1] that XPCS experiments can be performed with very low doses reaching doses as low as a few kGy which opens the possibility to study dynamics of protein systems. In this talk I will present the methodology, opportunities, challenges and also first results of XPCS studies of radiation sensitive samples.

[1] J. Verwohlt et al. Phys Rev Lett 120, 168001 (2018)

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Session Classification: Dynamics of Proteins in Crowded and Confined Geometry

Track Classification: Dynamics of proteins in crowded and confined geometry