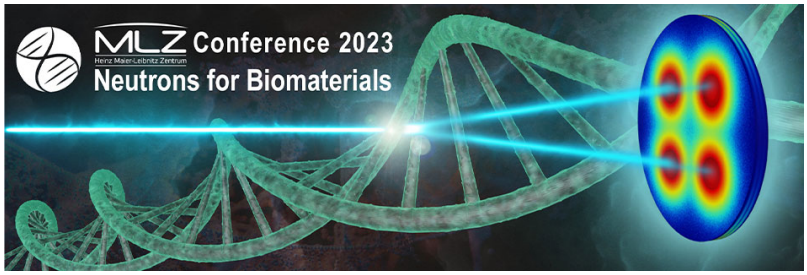

Contribution ID: **29** Type: **Talk**

SANS from foams

Tuesday, 23 May 2023 11:40 (20 minutes)

Foams are a complex material with a rich structural hierarchy. Aqueous foams in particular change their structure over time due to processes like gravitational drainage, Ostwald ripening and coalescence. Because of this complex structure, modelling SANS curves obtained from foams is challenging. Here, a newly developed model, describing SANS data of foams, is presented. The model takes into account the geometry of the foam bubbles and is based on an incoherent superposition of reflectivity curves, arising from the foam films, and a small-angle scattering (SAS) contribution from the Plateau borders. We present results obtained from foams stabilized by (i) a standard cationic surfactant ($C_{14}TAB$) and (ii) temperature responsive pNIPAM-microgels - both with different water contents, i.e. drainage states, that provides information about the thickness. The approach points the way to the investigation of protein (β-lactoglobulin, casein, bovine serum albumin) stabilised foams, for which we will present preliminary thin film pressure balance results.

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Session Classification: Hybrid biomaterials

Track Classification: Hybrid biomaterials