Contribution ID: **202** Type: **Talk**

Establishing deuteration services for MLZ users at the JCNS

Tuesday, 8 December 2020 15:50 (25 minutes)

Neutron scattering experiments involving soft matter materials often require specific contrast to observe different parts of the materials. In order to increase the availability of deuterium labelled materials, we are establishing deuteration support to MLZ users. At this state, we are focusing on a limited number of projects, but in the future, a proposal based deuteration service will be available in GhOST in combination with a proposal for neutron beamtime. Furthermore, the JCNS deuteration efforts are embedded in the LENS deuteration initiative, with the objective of providing in the future a source independent deuteration support together with ILL, ESS and ISIS.

Our main synthetic focus at JCNS-1 is in the area of polymer and organic chemistry. Anionic and controlled radical polymerization techniques allow the synthesis of e. g. polydienes, polyethylene oxide, polybutylene oxide polyacrylates and methycrylates with narrow molecular weight distributions for well-defined samples. The so obtained polymers can be functionalized afterwards to attach diverse functional groups or molecules. Organic techniques are used for the production of ionic liquids, surfactants, lipids, monomers and other compounds. The presentation summarizes the synthetic expertise available at JCNS-1 as well as outlines the planned process to establish the deuteration support.

Primary author: FRUHNER, Lisa (JCNS-1, Forschungszentrum Jülich GmbH)

Co-authors: ALLGAIER, Jürgen (FZ Jülich); FÖRSTER, Stephan (Forschungszentrum Jülich)

Presenter: FRUHNER, Lisa (JCNS-1, Forschungszentrum Jülich GmbH)

Session Classification: MLZ Users 2020 - Soft Matter

Track Classification: UM: Soft Matter