

50 Years of Neutron Backscattering Spectroscopy



Contribution ID: 33

Type: **Invited talks**

Science from IN16B

Friday, 2 September 2016 17:20 (15 minutes)

The very substantially increased neutron flux of IN16B [1,2] compared to its predecessor IN16 permits to carry out new types of experiments that have not been possible before as well as to significantly increase the accuracy of the results in all experiments. This presentation shall provide a few selected examples of experiments performed recently on IN16B addressing various topics [3-7], including yet unpublished results. A particular emphasis will be on fundamental aspects of soft matter and biomolecular dynamics addressing for instance the diffusion of drug molecules in supramolecular gels, the influence of peptide molecules on membrane fluctuations in thin-film as well as vesicle membrane samples, and the diffusion of model proteins in solution.

- [1] B.Frick et al., Z.Phys.Chem. 224,33 (2010);
- [2] M.Hennig, B.Frick, T.Seydel, J.Appl.Cryst. 44,467 (2011);
- [3] A.Hill et al., J.Chem.Phys. 140, 044709 (2014);
- [4] M.Grimaldo et al., J.Phys.Chem.B 118, 7203 (2014);
- [5] P.Ondrejko et al., Phys.Rev.Lett. 113, 167601 (2014);
- [6] M.Appel et al., J.Chem.Phys. 142, 114503 (2015);
- [7] S.Mitra et al, J.Phys.Chem. B 120, 3777 (2016).

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Session Classification: Science overview from Backscattering Workhorses