

Training school on *NMR relaxometry for porous and confined systems*

The NMR relaxometry technique is a powerful technique to investigate the dynamics of fluids in the presence of interfaces. The advantage of this technique is its ability to probe the dynamics from the nanosecond to the microsecond and in consequence to reveal the different kind of motions. The objective of this school is to provide keys to understand and to analyze the NMR relaxometry data obtained on confined liquids.

Program

Monday

- 1h General introduction (Danuta Kruk –Anne-Laure Rollet)
- 1h NMR relaxation for dummies (Jean-Pierre Korb)
- 2h Introduction to kinetic equations of relaxation using density matrix formulation – case of fast motions (Maurice Goldman)
- 2h Dynamical information through self-correlation functions (Rainer Kimmich)
- 1h How to choose the right model and how to perform appropriate experiments? (Anne-Laure Rollet)
- 2h Discussion around the research subjects of the students

Tuesday

- 1h NMR relaxometry and other experimental techniques for extending the temporal domain (Rainer Kimmich)
- 1h How to build numerically self-correlation functions in simple cases (Guillaume Mériquet)
- 2h Translational dynamics in confinement (1D, 2D, 3D) (Jean-Pierre Korb)
- 2h Intermittent dynamics (Pierre Levitz)
- 2h Quadrupolar relaxation in confinement (Alfred Delville)
- Discussion around the research subjects of the students

Wednesday

- 1h Case of slow motion (Maurice Goldman)
- 1h Application to confined polymers (Rainer Kimmich)
- 1h Application to petroleum fluids (Jean-Pierre Korb)
- 1h Application to cement based materials (Jean-Pierre Korb)
- 2h Application to biological systems (Robert G. Bryant)
- 2h Discussion around the research subjects of the students

Organization

Date: 5th 9:30 to 7th November 18:00

Location: Sorbonne Université, campus Jussieu, Barre 32-42 1st floor, room 101

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