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# Merging NMRD and 3D imagery to probe diffusion, adsorption and interconnection in disorder porous media

## Résumé

Diffusion of a molecule inside a disordered porous material and its interaction with the walls can be nicely probed by NMRD. Even more, 2D experiments such as T2-evolution-T2 allow to investigate interconnectivity of different pore networks inside multiscale porous materials. However, these two series of complementary experiments are not "q dependent" in contrary to the pulsed gradient NMR spectroscopy or the spin-echo neutron scattering. In order to complement analytical models used to analyze NMRD and 2D experiments, it can be interesting to probe the potentiality of a multimodal approach involving the 3D imagery of the interfacial system under study. We first present the case of an intermittent regime involving molecular diffusion and adsorption in some porous materials and the corresponding NMRD experiments. Second, we briefly discuss the case of the intermittent exchange associated to the interconnectivity of different classes of pore networks in relation with 2D RMN experiments.