



**UNIVERSITÄT
BIELEFELD**

Fakultät für Physik

Physikalisches Kolloquium

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Dynamics of ions under confinement: Ionic liquids moving through regular nanoporous frameworks

Transport phenomena of molecules and ions inside porous materials are crucial for various fields, ranging from energy storage and transformation to molecular separation. In many advanced energy storage devices like supercapacitors charged molecules are confined in small pores. There, nanoconfinement effects may change the ion properties fundamentally.

For detailed insights, the dynamic properties of molecular cations and anions, forming ionic liquids (ILs), confined in the nanopores of crystalline metal-organic frameworks (MOFs) are explored. Such well-defined model systems allow a precise understanding of the ion dynamics under confinement and unveil unexpected effects like strong guest-guest and host-guest correlations. In the presentation, these confinement effects of the ion dynamics are discussed.

Monday, June 27, 2022, 4:15 p.m.

H6 and via zoom