

CoV precautions

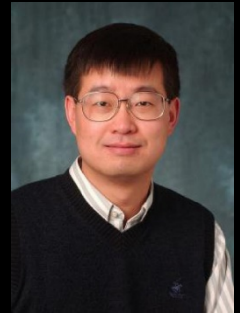
- Video-Conference: <https://webconference.uibk.ac.at/b/eri-mlf-pmj-1fm>

Innsbruck Physics Colloquium

A degenerate Fermi gas of polar molecules with tunable interactions

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AMO Physics & Precision Measurements
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The advent of a quantum gas of polar molecules sets the stage to explore novel many-body physics. We apply a precisely controlled electric field to tune the elastic dipolar interaction by orders of magnitude while suppressing reactive losses. Efficient dipolar evaporation leads to the onset of Fermi degeneracy in two-dimensional optical traps. When the electric field is used to tune excited molecular rotational states into degeneracy with the scattering threshold, we observe sharp collision resonances that give rise to three orders-of-magnitude modulation of the chemical reaction rate. Using this resonant shielding, we realize a long lifetime for a bulk molecular gas with tunable interactions.

**Colloquium: Tuesday, 23.03.2021
17:15 h**

DK-ALM Pre-Talk: 16:30 h

Jakob Heller

Hydrated Metal Ions: Unravelling the H₂ Formation Mechanism

Link: <https://webconference.uibk.ac.at/b/eri-mlf-pmj-1fm>

Innsbruck Physics Colloquium, Organisation: M. Beyer, H.-C. Nägerl, A. Reimer