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Seminar über Quanten-, Atom- und Neutronenphysik (QUANTUM)

Oct. 21, 2021 at 2 p.m.
None

Prof. Tanya Zelevinsky
Columbia University

Ultracold molecular clocks

Techniques for controlling quantum states of atoms have led to extremely precise metrology and studies of degenerate gases. Extending such techniques to various types of molecules further enriches the understanding of fundamental physics, basic chemical processes, and many-body science. Samples of diatomic molecules can be created by binding laser-cooled atoms, or by direct molecular laser cooling. We explore both approaches and demonstrate high-precision metrology with an optical-lattice based molecular clock, as well as photo-chemistry in the highly nonclassical domain.

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