



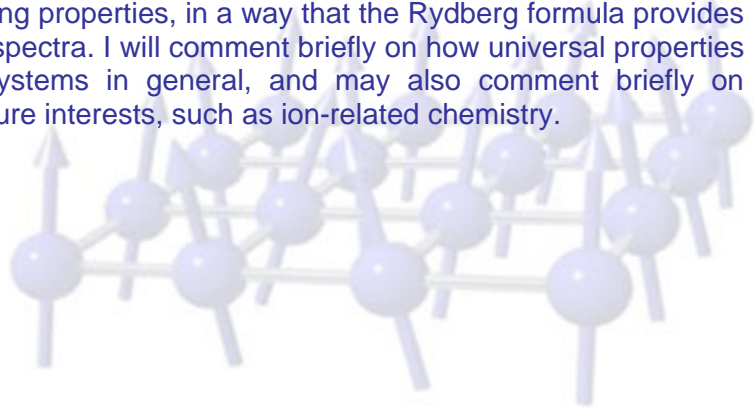
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Universal properties in ultracold ion-atom interactions

An ion has a much stronger influence on its environment than an atom can ever have. Whenever present, it dominates the physics and the chemistry surrounds it. Unfortunately, understanding of slow ions, at room temperatures or below, and the related physics, has for many years been limited by experimental difficulties. New experiments based on trapped ions and atoms, such as those at Ulm, are providing exciting opportunities for the investigation of this subject.

This talk presents some initial theoretical results on ion-atom interactions in the ultracold temperature regime. The focus will be on a two-body theory that provides a systematic understanding of ion-atom systems, both their bound states and their scattering properties, in a way that the Rydberg formula provides us for atomic Rydberg spectra. I will comment briefly on how universal properties emerge in quantum systems in general, and may also comment briefly on subjects of potential future interests, such as ion-related chemistry.



7. April 2010, 9:15 Uhr

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