UNIKASSEL VERSITÄT

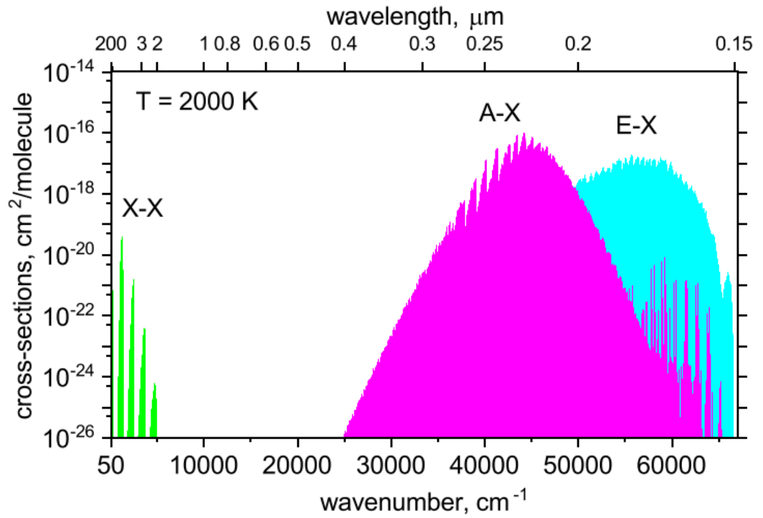
Physikalisches Kolloquium

Thursday, 06.07.2023, 16:15, HS 100
Reception with coffee & cookies 16:00
(For university staff: please bring your own cup for sustainability reasons)

Dr. Ahmad Adam, Bergische Universität Wuppertal:

Rovibronic Transitions in Molecules: Toward an Exact Approach

Abstract
Molecules exhibit complex structural and dynamical behavior manifested in their degrees of freedom. The common approach to help us understand this complexity is to start with a zero-order approximation. Beyond the zero-order picture, the voyage to explore the molecular world is just about to begin. In principle, we can extract from the Schr¨odinger equation three different degrees of freedom, namely: electronic, vibrational, and rotational. However, the extraction process is not always general and straightforward due to the specific nature of molecules. How do molecular degrees of freedom communicate, and what are the relationships among them? To what extent do we want to interfere? An answer will be illustrated with an application to rovibronic transitions in a molecular system and an approach to build an accurate model.



Picture: Simulated Absorption Spectra.

All of you interested in physics are cordially invited!

Contact: Prof. Dr. Thomas Giesen, Experimental Physics V, More Information: uni-kassel.de/go/physikalisches_kolloquium