



Physical Sciences Seminar

Harnessing exotic configuration spaces for quantum applications

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The position states of the harmonic oscillator describe the location of a particle moving on the real line. Similarly, the phase difference between two superconductors on either side of a Josephson junction takes values in the configuration space of a particle on a circle. More generally, many physical systems can be described by a basis of position states, describing a particle moving on a more general configuration or state space. Most of this space is usually ignored due to the energy cost required to pin a particle to a precise position. However, as our control over quantum systems improves, utilizing more of this higher-energy space harbors benefits for protecting quantum information and probing quantum matter. I will discuss quantum applications taking advantage of state spaces associated with the harmonic oscillator, as well as molecular rotational and nuclear states.

Monday, March 2, 2020 09:00am - 10:00am

Mondi Seminar Room 2, Central Building



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

Please find a schedule of the ISTA Shuttle on our webpage:

<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.