

The **Vienna Center for Quantum Science and Technology**
VCQ

invites you to a

COLLOQUIUM TALK

by

Elizabeth Agudelo
(TU Wien)

Quantum correlations in the phase space

Quantum physics is currently being leveraged to push forward information science and various technologies. Key questions remain unanswered, however, about what is possible under quantum theory, and how classical limits can be surpassed. In our work, we focus on the strategy of characterizing physical systems in phase space. In this talk, I will examine the boundary between quantum and classical mechanics in the phase space. I will present new, mathematically rigorous methods for practical applications of phase space-based theory that shed light on the distinction between the classical and quantum realms, and enable quantum state characterization. For instance, we will demonstrate effects that go beyond classical correlations using a theory that is experimentally accessible. We will also showcase cutting-edge techniques to differentiate between classical and quantum phenomena in quantum optics experiments, introducing concepts such as nonclassicality, quasiprobabilities, and phase space inequalities, while exploring the evolution of complex correlated systems.

Monday, 24 June 2024

at Helmut Rauch Lecture Hall
Atominstytut Wien, Stadionallee 2, 1020 Vienna

17:00 Get-together with drinks & snacks

17:30 VCQ Student Talk
Florian Kanitschar

17:45 VCQ Colloquium Talk

Host: Borivoje Dakić