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

June 4, 2020 at 2 p.m. c.t.
<https://zoom.us/j/94520261050> (Passwort-Anfrage an "stuckker@uni-mainz.de")

Dr. H  l  ne Perrin
Universit   de Paris 13, Sorbonne, Paris Cite, France

Superfluid dynamics of a quantum gas at the bottom of a bubble trap

In this talk, I will discuss the dynamics of a superfluid quantum Bose gas confined at the bottom of a shell rf-dressed trap. Weakly interacting quantum degenerate atoms present a superfluid behavior, characterized by several properties including the emergence of specific collective modes at low energy or the apparition of quantum vortices when the fluid is set into rotation. In the talk I will describe the collective dynamical behavior of the atoms confined in this very smooth potential, from the low excitation regime where the first collective modes are observed to the fast rotation limit where the bubble shape of the trap plays an essential role.

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