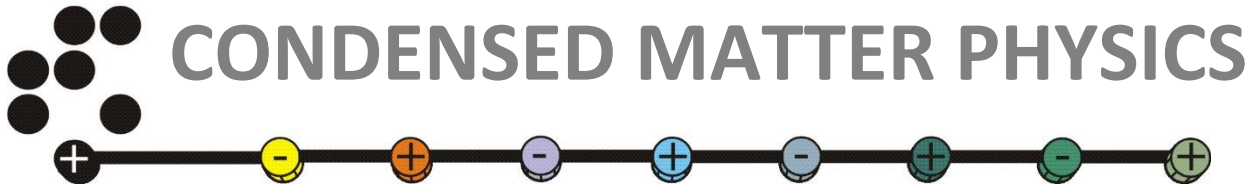


F-5 SEMINAR



*Friday, April 21, 2023
at 10:30 AM*

*in the seminar room of physics (room 106)
Condensed Matter Physics, Jožef Stefan Institute*

Katja Gosar, MSc.
Jožef Stefan Institute, Ljubljana

Quantum memory based on cold cesium atoms

Quantum memory is a device that can store a quantum state – typically a photon – for a certain time. The development of such devices is important because they are a crucial part of quantum communication at long distances because of their use in quantum repeaters. In the ultracold atom lab, we are studying quantum memory based on electromagnetically induced transparency on cesium atoms. I will explain why periodic collapses of the retrieval efficiency from a quantum memory occur and how we can decrease this effect. Furthermore, I will present experiments in which we can partially retrieve the same input pulse multiple times and how we can combine two input pulses. We can even achieve that two pulses are independently stored in the medium at the same time.

You are cordially invited to attend.