Contribution ID: **18** Type: **Progress poster**

Probing Collective States of Ultracold Atoms via Cavity-Enhanced Interaction

Friday 14 March 2025 16:05 (1h 55m)

In quantum information science, encoding information in atomic states and reading it through light is essential for building quantum networks. Enhancing light-matter interaction is crucial for improving the efficiency of such processes, and optical cavities have emerged as a powerful tool in this regard. This project experimentally investigates the feasibility of measuring a collective state of a lattice of ultracold cesium atoms using cavity-enhanced off-resonant dispersive interactions.

Field of study

Quantum Physics

Supervisor

Eugene Polzik

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Session Classification: Poster session: Enjoy the posters!