

Towards improvements in quantum networks using Fiber Fabry-Perot (FFP) microcavities

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Trapped ions coupled to an optical cavity have proven to be good candidates for atom-photon interface, which provide a basis for quantum network applications. Increasing coupling strength between the cavity and ions remains a central focus for advancements of the ion-cavity systems. Promising approach involves the usage of microcavities fabricated on optical fibers. In this poster an existing experimental setup will be presented, that consists of linear Paul trap with an integrated fiber cavity along the trap axis. Additionally, the design of new MEMS surface ion traps with microactuators will be presented.

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