(Poster)Towards atom-metamaterial interaction on fibre tips

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Atoms have been demonstrated as a good resource for quantum information processing. This resource can be manipulated by atom-surface interactions due to nearby metasurfaces, emitters etc.

Having shown modification of the atom-metamaterial interaction by tuning the plasmonic resonance through selective reflection spectroscopy on hot vapour atoms, we now attempt to realise this plasmon mediated interaction on the surface-tip of a fiber. We will present our results for a large mode area fiber that is large enough for the atoms to have reasonable interaction time with the electromagnetic field.