Coupling single emitters to quantum plasmonic circuits

In recent years, the controlled coupling of single-photon emitters to propagating surface plasmons has been intensely studied, which is fueled by the prospect of a giant photonic nonlinearity on a nanoscaled platform. In this article, we will review the recent progress on coupling single emitters to nanowires towards the construction of a new platform for strong light-matter interaction. The control over such a platform might open new doors for quantum information processing and quantum sensing at the nanoscale and for the study of fundamental physics in the ultrastrong coupling regime.

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