

Publication

A fiber-coupled quantum-dot on a photonic tip

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We present the experimental realization of a quantum fiber-pigtail. The device consists of a semiconductor quantum-dot embedded into a conical photonicwire that is directly connected to the core of a fiber-pigtail. We demonstrate a photon collection efficiency at the output of the fiber of 5.8% and suggest realistic improvements for the implementation of a useful device in the context of quantum information. We also discuss potential applications in scanning probe microscopy. The approach is generic and transferable to other materials including diamond and silicon.

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