

Abstract Submitted
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Telecom wavelength photons from a long-lived quantum memory

ALEXANDER G. RADNAEV, YAROSLAV O. DUDIN, RAN ZHAO, STEWART D. JENKINS, ALEX KUZMICH, BRIAN KENNEDY, Georgia Institute of Technology — We report frequency up and down conversion of light between (telecom) 1367 nm and (rubidium) 795 nm wavelengths with efficiency in excess of 50% using non-degenerate and non-collinear four-wave mixing in a cold rubidium vapor. We have integrated the conversion scheme with a long lived quantum memory and verified quantum correlations of the memory and telecom field by measuring the quality of retrieved single photons.

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