

Abstract Submitted
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Photon-Pair Generation in Cold Atomic Ensemble for Long-Distance Quantum Communication PYEONG WOO KIM, HAN SEB MOON, Pusan National University — One of the common methods for overcoming limitation of long-distance quantum communication is using entangled photon pair sources between 1.5- μm band photon and near infrared photon. We investigate the three-photon electromagnetically induced absorption (TPEIA) and four-wave mixing (FWM) in the $5S_{1/2}$ - $5P_{3/2}$ - $4D_{5/2}$ transition of ^{87}Rb atoms. We will report the photon-pairs with 780-nm and 1.5- μm generated by spontaneous four-wave mixing in this transition of ^{87}Rb .

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