

Abstract Submitted
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High-contrast four-wave mixing in resonance double-Lambda atomic system TAEK JEONG, HAN SEB MOON, Pusan National University — We have observed four-wave mixing(FWM) of weak pumping in a resonance double-Lambda system for the $5S_{1/2}$ - $5P_{1/2}$ transition of ^{87}Rb atoms, using weak pump intensity. When three beams(CPT1, CPT2 and pump) were co-propagated in the double-Lambda configuration composed of the common excited state $5P_{1/2}(F_e = 2)$ and the two ground states $5S_{1/2}(F_g = 1 \text{ and } 2)$, we directly measured the generated FWM signal filtering the three beams using polarizer and etalon filters. The spectral width of FWM signal was measured to be 5kHz under the condition of coherent population trapping(CPT). Dependence of FWM signals on the intensities of the two beams related CPT and pump beam was investigated in detail.

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