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Non-intuitive Coherent Population Transfer H. MAEDA, J.H. GURIAN, D.V.L. NORUM, T.F. GALLAGHER, University of Virginia — Coherent population transfer using a sequence of adiabatic rapid passages through single photon resonances is intuitive, i. e. the frequencies of the atomic transitions follow that of the chirped radiation field. Here we report efficient non-intuitive population transfer, which can occur even when the frequency is chirped in the wrong direction. The sequence of single photon transitions is replaced by a single multiphoton transition, enormously reducing the range of chirp required.

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