Abstract Submitted
for the DAMOP09 Meeting of
The American Physical Society

Two-color STIRAP in trapped-ion quantum states[1] CHITRA RANGAN, University of Windsor, Windsor, ON. Canada — We show how two-color Stimulated Raman Adiabatic Passage (STIRAP) can be executed in an N-level quantum system. The system of choice is the trapped-ion system which can be modeled by a spin-half system coupled to a harmonic oscillator. The two-color fields are the those that produce the spin-flip "carrier" transition, and the first red sideband transition. Generalization to multiple ions and the potential to produce quantum 'gates' are investigated.

[1]This research was supported by NSERC, Canada.

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Date submitted: 23 Jan 2009 Electronic form version 1.4