Abstract Submitted
for the DAMOP10 Meeting of
The American Physical Society

Lambda system interacting with one cw and one modulated optical beam JAMES SUPPLEE, Drew U. and Stevens Institute of Technology, EDWARD A. WHITTAKER, Stevens Institute of Technology — We are using a semiclassical model to calculate the response of a lambda system to two optical beams, each near resonance with an allowed transition. One beam is modeled as a steady cw beam, while the other is frequency and/or amplitude modulated. We are interested in understanding how the response of the system is affected by various parameters, including the detuning of each beam from resonance and the strength and frequency of the modulations. It is interesting to consider which parameter regimes can be understood more intuitively in the time-domain and which in the frequency-domain. This progress report may touch briefly on the conditions for coherent population trapping, and the conditions for the appearance of Ramsey-like fringes.

James Supplee
Drew U. and Stevens Institute of Technology

Date submitted: 22 Jan 2010 Electronic form version 1.4