

Abstract Submitted
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**Physical Model of Modulation Dependent Effects in CPT
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Physics, IRINA NOVIKOVA, DAVID PHILLIPS, RON WALSWORTH, Harvard-
Smithsonian Center for Astrophysics — We report on the semi-analytic evaluation
of the three level atom in multiple light fields subject to a slow phase modulation.
Combining these results with a model of the corresponding phase sensitive detection
leads to a demodulated line shape that quantitatively accounts for the shifts and
dependencies that have been observed in systematic studies of Coherent Population
Trapping (CPT) resonances.¹ Understanding these effects in detail is likely to be
of utility in the optimization of miniature atomic time standards based on optical
coherences.

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