

Abstract Submitted  
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**Influence of EIT coherence on laser phase-noise to intensity-noise conversion** YANHONG XIAO, DAVID PHILLIPS, CINDY HANCOX, IRINA NOVIKOVA, RONALD WALSWORTH, Harvard-Smithsonian — Laser phase-noise can induce intensity-noise through interactions with atoms. We report an experimental study of the influence of EIT coherence in Rb vapor on this noise conversion process. Enhancement of the intensity-noise is observed as the EIT coherence is varied via two-photon Raman detuning. We attribute this enhancement to the correlation of phase fluctuations created in EIT. Potential implications for CPT atomic clocks will be discussed.

Ronald Walsworth

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