

Abstract Submitted  
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**Noise processes in Electromagnetically Induced Transparency**  
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RONALD L. WALSWORTH, Harvard-Smithsonian CfA — Laser phase noise can  
induce intensity noise after interacting with an atomic medium. This process plays  
a critical role in determining the performance of systems employing electromagneti-  
cally induced transparency (EIT), including certain types of atomic clocks, magne-  
tometers and stored light. We present experimental and theoretical study of EIT  
noise spectra and correlations in a Rb vapor cell. Applications of these results in  
atomic clocks, magnetometry, quantum optics, sensing and imaging are discussed.

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