

Abstract Submitted
for the TSF11 Meeting of
The American Physical Society

Variation of phase of slow light in a uniformly moving dielectric medium¹ SANKAR DAVULURI, YURI ROSTOTSEV, University of North Texas — It is very well known that moving objects can drag light. In this presentation, we report the variation of phase of a laser beam when it passes through a medium. We show that the sensitivity of phase of the laser beam to the velocity of moving medium can be greatly enhanced if the light travels with a slow group velocity in the moving medium. We have taken the moving medium consists of three level lambda atoms, and the medium is made transparent by employing a strong drive field to take advantage of electromagnetically induced transparency (EIT). EIT suppresses the absorption of probe beam around resonance and the steep dispersion of probe beam around the resonance results in slowing down the group velocity of probe beam. Finally, we present the dependence of phase as a function of probe beam and velocity of the medium.

¹University of North Texas summer research grant

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Date submitted: 09 Sep 2011

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