

Abstract Submitted
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Measurement of optical nonlinearity of highly dispersive medium using optical heterodyne detection technique ARUP BHOWMICK, Senior Research Fellow, ASHOK MOHAPATRA, Reader-F — We discuss the optical heterodyne detection technique to study the absorption and dispersion of a probe beam propagating through a medium with a narrow resonance. The technique has been demonstrated for Rydberg Electro-magnetically induced transparency (EIT) in rubidium thermal vapor and the optical non-linearity of a probe beam with variable intensity is studied. A quantitative comparison of the experimental result with a suitable theoretical model is presented. The limitations and the working regime of the technique are discussed.

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