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Refractive Index Enhancement in an Atomic Vapor NICHOLAS PROITE, J.P. SHEEHAN, JONATHAN GREEN, BRETT UNKS, DENIZ YAVUZ, University of Wisconsin - Madison — We experimentally demonstrate a scheme where a laser beam experiences an index of refraction of 10^{-5} with vanishing absorption in an atomic medium [1]. The essential idea is to excite two Raman resonances with appropriately chosen strong control lasers in a far-off resonant atomic system. We observe this effect by utilizing the hyperfine ground states of ^{85}Rb and ^{87}Rb simultaneously in a thin vapor cell heated to 150°C. [1] N. A. Proite, *et. al.*, Phys. Rev. Lett. **101**, 147401 (2008).

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