

Abstract Submitted  
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**Interference of two laser beams on a glass surface** RISHI BHARADWAJ, Phillip Drayer Department of Electrical Engineering, Lamar University, CRISTIAN BAHRIM, Physics Department, Lamar University — The analysis of the reflectance of a laser beam by a glass surface within 20 degrees of the Brewster angle indicates that we can effectively lock the probe laser's energy into the vibrations of the electric dipoles located on the surface, when this probe is assisted by a second stronger coupling laser beam oriented perpendicularly to the same spot of the surface. In the interaction area between the two lasers, about 2mm wide, the analysis of the light beam of the probe laser reflected by the surface, indicates that the vibration of the surface dipoles is inhibited by the larger vibrational frequency of the coupling laser. Our experimental signal clearly shows a typical pattern with evenly spaced fringes of interference located near the Brewster angle minimum of the parallel component of reflectance. In such a case, the Brewster minimum gets wider, into a Brewster region of width about 1 degree.

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