

Abstract Submitted  
for the MAR11 Meeting of  
The American Physical Society

**Visualization of Coherent Processes in Plasmonic Interference Transparency** ZILIANG YE, SHUANG ZHANG, YUAN WANG, YONG-SHIK PARK, XIAOBO YIN, THOMAS ZENTGRAF, GUY BARTAL, XIANG ZHANG<sup>1</sup>, University of California, Berkeley — Recently, optical analogs that mimic the dynamics of atomic EIT are attracting attention since they could maintain coherence at room temperature and are easier to fabricate as well as to integrate. However, the understanding of the relationship between atomic EIT and its classical counterparts still remains on the spectroscopic level, which strongly limits the applicability of the analogy. As the coherent evolution of a quantum system is characterized by the oscillatory population transferring between the states, here, we map the coherent oscillation strength of a plasmonic interference transparency (PIT) structure and show that there is a deeper resemblance embedded in the analogy: both systems are populated in the ‘dark’ state at the transparency point.

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Date submitted: 27 Nov 2010

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