

Abstract Submitted
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Persistent Tuning of Metamaterials DIMITRI BASOV, TOM DRISCOLL, MASSIMILIANO DI VENTRA, University of California, San Diego, HYUN-TAK KIM, YONG WOOK LEE, E.T.R.I. Korea, SABARNI PALIT, DAVID SMITH, NAN JOKERST, Duke University — Methods for real-time tuning (dynamic-tuning) of metamaterial electromagnetic response have received significant attention as a possible approach to alleviate limitations associated with bandwidth in metamaterials. In a dynamic-tuning configuration, an applied stimulus induces some temporary change in the metamaterial properties – altering the metamaterial response as long as the stimulus remains. In this talk, we discuss results from a SRR-VO₂ hybrid metamaterial which exhibits electrically-controlled persistent tuning.¹ Persistent tuning allows lasting modification to the metamaterial response using a transient stimulus. Such ability is highly desirable in consideration of potential metamaterial applications, such as reconfigurable optics.

¹T.Driscoll et.al. Science. 325, 1518 (2009)

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