

Abstract Submitted
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Enhanced performance in nanotemplated dielectric structures

YUN PENG, K. KEMPA, M.J. NAUGHTON, Boston College — The dielectric properties of nanoscale metallic inclusions in insulating media are anticipated to be significantly enhanced (1,2). We have prepared such nanocomposites via electrochemical deposition of metal (gold) in polycarbonate template membranes. We have characterized the properties of these via frequency-dependent capacitance measurements, and compare our results with a theory of enhanced $\varepsilon(\omega)$ at the nanoscale (2).

- 1. J.Xu and C.P.Wong, Proceedings of the Ninth International Symposium on Advanced Packaging Materials: Process, Properties and Interfaces, Atlanta, GA, 24 March 2004 (IEEE, New York, 2004,) p.158
- 2. T. Kempa, D. Carnahan etc., Dielectric media based on isolated metallic nanostructures, J.Appl.Phys, 98, 34310 (2005)

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