

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Aluminum Nanowire Arrays via Directed Assembly¹ NATHAN T. NESBITT, JUAN M. MERLO, AARON H. ROSE, YITZI M. CALM, LUKE A. D'IMPERIO, DAVE T. COURTNEY, STEVE SHEPARD, KRZYSZTOF KEMPA, MICHAEL J. BURNS, MICHAEL J. NAUGHTON, Boston College — Vertically-oriented metal nanowire arrays are rare. Here, freestanding, vertically-oriented, and lithographically-ordered Al nanowire arrays have been fabricated via directed assembly [1]. The fabrication technique is a variation on the preparation of anodized aluminum oxide (AAO) templates, using nanoimprint lithography (NIL) to direct the formation of pores on an Al film and produce Al nanowires. Near-field scanning optical microscope (NSOM) and conventional optical microscope data of a single nanowire lying on glass and illuminated by a laser spot show evidence of surface plasmons propagating along the nanowire. [1] N. T. Nesbitt, J. M. Merlo, A. H. Rose, Y. M. Calm, K. Kempa, M. J. Burns, M. J. Naughton, *Nano Lett.* (2015), DOI: 10.1021/acs.nanolett.5b02408

¹This material is based upon work supported by the National Science Foundation Graduate Research Fellowship under Grant No. (DGE-1258923).

Nathan T. Nesbitt
Boston College

Date submitted: 05 Nov 2015

Electronic form version 1.4