Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

AFM Analysis of Photcatalyzed Deposition of Silver Particles on Perovskite Surfaces BENJAMIN BEIN, Department of Physics and Astromomy, Stony Brook University, JOSEPH MAGEE, Department of Chemistry, Brookhaven National Laboratory, SARA CALLORI, JOHN SINSHEIMER, MATTHEW DAWBER, Department of Physics and Astromomy, Stony Brook University — Photocatalyzed deposition of silver from a silver-nitrate solution onto well-defined perovskite surfaces was investigated using an atomic force microscope (AFM). The different materials were grown in a RF-off-axis sputter deposition chamber. Grown films have atomically flat surfaces with unit cell high step edges. Different particle accumulation structures were encountered, and the distribution of particles was analyzed. The photocatalyzed deposition of silver is a suitable proxy reaction for water splitting, and development of a technique that will allow precise determination of the catalytic ability of surfaces and specific sites on those surfaces is a priority in our group's efforts to develop new ferroelectric photocatalysts.

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Date submitted: 16 Nov 2012 Electronic form version 1.4