Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Scanning tunneling microscopy of self-assembled viral nanostructures BENJAMIN ANACLETO, NAT STEINSULTZ, PRASHANT SHARMA, Department of Physics, Suffolk University, Boston, MA — We use scanning tunneling microscopy to investigate self-assembled monolayers of M13 bacteriophages on graphite surface. The bacteriophages we use have gold binding peptide motifs on their outer protein coat ($\sim 1\mu$m long, $\sim$10 nm diameter) allowing us to self-assemble gold nanoparticles on graphite. Using scanning tunneling microscopy we are able to resolve sub-molecular structure of the protein coat of M13 bacteriophage. Scanning tunneling spectroscopy allows us to study the binding of gold nanoparticles to the peptide motif on the bacteriophage.

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Date submitted: 20 Nov 2009 Electronic form version 1.4