Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Weak magnetic field effect on the growth of bacteria on plain glass and nano-ripple glass pattern. IRAM SALEEM, Department of Physics and Texas Center for Superconductivity, University of Houston, SAMINA MASOOD, DEREK SMITH, Department of Physical and Applied Sciences, University of Houston-Clear Lake, WEI-KAN CHU, Department of Physics and Texas Center for Superconductivity, University of Houston — Bacterial growth on plain glass surface and glass nano-ripple structure fabricated by gas cluster ion beam irradiation shows more growth on the nanostructure. We compared the growth of two gram negative rod-shaped bacteria, E.coli and Pseudomonas aeruginosa. Bacteria gets trapped between the nano grooves and grows in size making larger colonies. We also studied the effect of weak magnetic field (uniform and non-uniform) on the growth of the two bacteria, E.coli and Pseudomonas aeruginosa, on the nano-ripple glass surface. Different behavior in the bacterial growth was observed on the glass nano-ripple surface inside and outside the magnetic field. Bacteria seems to grow more in the absence of the magnetic field. Bacteria growing on a nano ripple pattern inside the magnetic field tends to make smaller colonies. Uniform magnetic field shows uniform growth on the substrate and much smaller colonies. Magnetic field effects the growth of bacteria on the nano ripple substrate by decreasing the size of the colonies

Iram Saleem
University of Houston

Date submitted: 20 Nov 2016 Electronic form version 1.4