

Abstract Submitted  
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**Diffusion of Silver in DC plasma prepared Diamond Like Carbon Films** YUDONG MO, PHILIP ECTON, Department of Physics, University of North Texas, ANDREW BALLINGER, HERSH MAHAJAN, ALLEN CHANG, TAMS, University of North Texas, DAVID GARRETT, Department of Biology, University of North Texas, MORGAN LYNCH, San Angelo State University, JOSE PEREZ, VAISHALI UKIRDE, MOHAMED EL BOUANANI, Department of Material Science and Engineering, University of North Texas, SCANNING TUNNELING MICROSCOPY RESEARCH GROUP, DR. PEREZ TEAM, LABORATORY FOR ELECTRONIC MATERIALS AND DEVICES (LEMD), DR. BOUANANI TEAM — Diamond like carbon (DLC) films were grown using DC plasma deposition (PECVD) of Argon/Methane gas mixtures of 5-8% methane. Both Scanning Electron Microscopy (SEM) and Raman Spectroscopy were used to characterize and optimize the DLC deposition. A silver film with a thickness of approximately 15 nm was deposited on the DLC films prior to annealing in flowing nitrogen in the temperature range 400C-900C. Rutherford backscattering Spectrometry was used to determine the silver diffusion profiles in DLC and extract its diffusion characteristics.

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