

15<sup>th</sup> International Conference and Exhibition on

# MATERIALS SCIENCE AND ENGINEERING

&

3<sup>rd</sup> International Conference on

# APPLIED CRYSTALLOGRAPHY

November 07-08, 2018 | Atlanta, USA

## The properties of multifunctional two dimension nanocomposite produce by Langmuir-Blodgett technique base on using single-walled carbon nanotubes

Ali Al-Mafarage and Maher S Amer  
Wright State University, USA

A real single layer (monolayer) films of unmodified zigzag (18,0) single-walled carbon nanotubes by using Langmuir Blodgett (LB) technique have been processed. Measurements of their properties in bundles which include stress-strain behavior (mechanical properties) and optoelectrical properties that related to the structural of tubes are applied. Both theoretical and experimental methods are applied together to confirm the results. The produced films were highly oriented as determined by polarized Raman spectroscopy and shown by scanning tunneling microscopy (STM), High Resolution Transmission Electron Microscopy (HRTEM). None of the chemical or surfactant treatments are applied in this study. The produced films are tested separately, then they use with matrix which is Poly (methyl methacrylate) (PMMA) to form nano composite by using two methods. Direct mixing method and insitu polymerization technique. The behaviors of the produced composites are discussed also, and the main characterizations and properties for those composites are observed.

### Biography

Ali Al-Mafarage has an MSc in Civil Engineering (structure) from AL-Nahrain University in 2005 from Iraq. Also, earn MSc in Material Science in Engineering (nanotechnology) 2018 from Wright State University in the USA. His advisor is Professor Maher Amer at Wright State University. This work is a fellowship received from Higher Education Council of Iraq (HCED) to him to pursue his PhD degree at Wright State University in Material Science and Nanotechnology. He has submitted a paper, but it still under the reviewer section. He has represented in (AIAA) conference held in Dayton Ohio, 2018 as Speaker.

al-mafarage.2@wright.edu

Notes: