

AOFSRR 2015

Asia Oceania Forum for Synchrotron
Radiation Research



ANSTO

Australian
Synchrotron



in conjunction with

**USER
MEETING
2015**

National Centre for Synchrotron Science

25-27 NOVEMBER 2015

Contribution ID : 92

Type : Poster

The effect of ordering of conductive polymer (pEDOT) on the conductivity in composites and the stage of manufacturing at which ordering occurs

Thursday, 26 November 2015 13:30 (20)

Some conducting polymer composites have shown counterintuitive increases in conductivity with increased quantities of incorporated non-conducting polymer (NCP). For example the conductivity of pEDOT, as a function of volume fraction of NCP, paradoxically increases for up to 70% volume fraction of PEG, however this is distinct to what is being observed for pEDOT:gelatin composites which follows percolation theory in its conductivity trend. GIWAXS measurements were made on the SAXS/WAXS beamline at the Australian Synchrotron to investigate the effects of adding varying quantities of NCP on the packing of the conducting polymer in the composite thin films. In-situ GIWAXS was used to explore the stages of pEDOT composite film manufacture at which ordering occurs.

Keywords

Primary author(s) : Mr MAYEVSKY, David (Monash University)

Co-author(s) : Dr GARVEY, Chris (ANSTO)

Presenter(s) : Mr MAYEVSKY, David (Monash University)

Session Classification : Poster Session 1

Track Classification : Energy Materials