is inferred to be originating from the defect states and the blue shift of the Q-band induced by the gamma irradiation.

Chapter 7 consolidates the results obtained in the thesis and puts them in the appropriate application regimes and eventually discusses the future scope of this work. Tin(II) 2,3-naphthalocyanine and vanadyl 2,3-naphthalocyanine composite thin films are found promising candidates towards applications in ultra high density storage and photoconductive devices. Also such a composite material optimization could determine optimal semiconductor energy gaps for use in one, two and three material based transparent solar cell designs. This is a current hot topic and is a campaign to increase solar energy harvesting by making transparent solar cell windows for shops and houses and eventually reduce the carbon emission by 50%.

The work presented in this thesis has either been published or in the process of publication in refereed international journals and conference proceedings.

**Research Papers Published in International Journals**


**Research Papers Published in Conference / Seminar Proceedings**

7. CMMP11, December 2011, Condensed matter and materials physics, *Multilayered molecular nanocrystals for solar cell devices*, Institute of Physics, Manchester, United Kingdom (Submitted)


10. NANOSAT-10, April 2010, “Electrical characterization of Tin(II) 2,3 Naphthalocyanine thin films containing agglomerated spherical particles” National conference on advances in Nano Science and Technology. Departments of Basic Sciences and Humanities, Amal Jyothi College of Engineering, Kanjirappally, Kottayam, India.


