CHAPTER 55

TECHNOLOGY
APPLIED PHYSICS

Doctoral Theses

642. KAMAL KISHOR
Characterization of Photonic Crystal Fibers and metamaterials : Theory and Experiments.
Supervisor : Prof. R.K. Sinha
Th 22465

Contents

1. Introduction 2. Characterization of endlessly single mode photonic crystal fiber 3. Characterization of specially designed polarization maintaining photonic crystal fiber 4. Design, fabrication and characterization of tunable negative refractive index metamaterial 5. Design and characterization of a metamaterial structure for negative refraction in optical communication window around 1.55 μm 6. Summary and future work. References.

643. SRIDHAR (Srividya)
Growth and Characterization of Carbon Nanotubes for Improved Field Emission.
Supervisors : Prof. R.K. Sinha and Dr. Harsh
Th 22462

Contents

1. Introduction to CNTs and field emission 2. Titanium buffer layer for improved field emission 3. Effect of buffer layer thickness on field emission of CNTs 4. Density control of CNTs for better field emission 5. Enhanced field emission properties from CNT arrays synthesized on inconel superalloy 6. Field emission with ultra-low turn-on voltage from metal decorated carbon nonotubes 7. One step process for infiltration of Fe_3O_4 into CNT array for enhanced field emission 7. Conclusion and future work.