Contents

1. INTRODUCTION 6
2. INTERACTIONS OF NANOSECOND LASER PULSES WITH TARGETS 7
2.1 Laser-driven inertial confinement fusion 9
2.2 Fluid simulations of X-ray emission and impact experiments 14
3. INTERACTIONS OF FEMTOSECOND LASER PULSES WITH TARGETS 15
3.1 Electron acceleration and K-α emission from solid targets 16
3.2 Role of ionization and collisions in femtosecond interactions 18
3.3 Two-dimensional PIC simulations of ion acceleration 20
4. RESEARCH AND EDUCATION IN THE AREA OF HIGH-POWER LASER-TARGET INTERACTIONS 21
REFERENCES 23
CURRICULUM VITAE 28