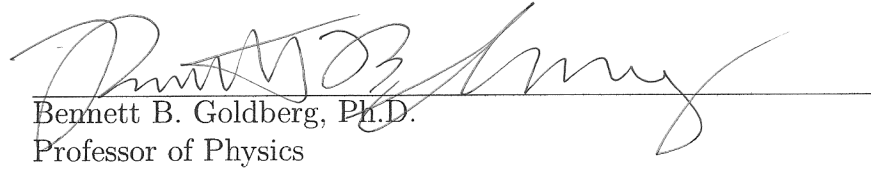



Approved by

First Reader



Bennett B. Goldberg, Ph.D.
Professor of Physics

Second Reader



Anna K. Swan, Ph.D.
Associate Professor of Electrical and Computer Engineering,
Physics, Materials Science and Engineering, and Photonics