Ultrafast spectroscopy and control of correlated quantum materials

By

Bryan T. Fichera

B.S., University of Pennsylvania (2017)

Submitted to the Department of Physics in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

at the

MASSACHUSETTS INSTUTITE OF TECHNOLOGY

May 2024

©Bryan Thomas Fichera, 2024. All rights reserved.

The author hereby grants to MIT a nonexclusive, worldwide, irrevocable, royalty-free license to exercise any and all rights under copyright, including to reproduce, preserve, distribute and publicly display copies of the thesis, or release the thesis under an open-access license.

Authored by: Bryan T. Fichera

Department of Physics

May 10, 2024

Certified by: Nuh Gedik

Donner Professor of Physics, Thesis supervisor

Accepted by: Lindley Winslow

Associate Department Head of Physics