Constraining Dark Matter Through the Study of Merging Galaxy Clusters

By

WILLIAM ANTHONY DAWSON

B.S. Maritime Systems Engineering (Texas A& M University, Galveston) 2002 M.S. Physics (University of California, Davis) 2008

DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Physics

in the

OFFICE OF GRADUATE STUDIES

of the

UNIVERSITY OF CALIFORNIA

DAVIS

Approved:

Professor David M. Wittman, Chair

Professor J. Anthony Tyson

Professor Maruša Bradač

Committee in Charge

2013