## FLORIDA STATE UNIVERSITY COLLEGE OF ARTS AND SCIENCES

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A Dissertation submitted to the Department of Physics in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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Irinel Chiorescu Professor Directing Dissertation  Petru Andrei University Representative  Peng Xiong Committee Member  Nick Bonesteel Committee Member  Sergio Almaraz-Calderon Committee Member	Josiah Cochran defended this dissertation on June 22, 2022.	
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that the dissertation has been approved in accordance with university requirements.	The Graduate School has verified and approved the above-named committee members, and certifies	
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