2022

PERFORMANCE OF CURVED ALUMINUM STRUCTURES SUBJECTED TO UNDERWATER EXPLOSIONS

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BY

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE

IN

MECHANICAL ENGINEERING AND APPLIED MECHANICS

UNIVERSITY OF RHODE ISLAND

2022

ACKNOWLEDGMENTS

The author is grateful for the opportunity he has been given to participate in this work and grow both as an engineer and as a person. The author would like to kindly acknowledge his co-major professors, Dr. Helio Matos and Dr. Arun Shukla, for their guidance and support from as far back as his undergraduate career. He would also like to acknowledge the eternal support of his family throughout this entire journey and all the changes that accompanied it. He would also like to thank Tyler Chu, Bastian Madsen, and Greg Morgan for all their technical support and expertise. Lastly, he would like to extend his love and gratitude to all the members of the DPML family. From them, he learned much more than how to be a better engineer.

ABSTRACT

An experimental investigation was conducted to study the interaction between bubbles created by a nearfield underwater explosive (UNDEX) and a curved aluminum plate structure. The experiments were performed at the University of Rhode Island in an UNDEX facility. High-speed cameras were used to measure full-field displacements, velocities, and strains during deformation by using the Digital Image Correlation Technique. In addition, during the experiments, pressure transducers were used to record the pressure pulses emanated from the UNDEX.

The full thesis manuscript can not be released since it contains controlled unclassified information (CUI).