

**VIETNAM NATIONAL UNIVERSITY - HO CHI MINH CITY  
INTERNATIONAL UNIVERSITY  
DEPARTMENT OF PHYSICS  
SPACE ENGINEERING**



**PHYSICS-INFORMED NEURAL  
NETWORK SURROGATE FOR  
ROCKET ASCENT TRAJECTORY  
OPTIMIZATION**

HA QUANG HUY

A THESIS SUBMITTED TO  
DEPARTMENT OF PHYSICS  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF ENGINEER IN SPACE ENGINEERING

HO CHI MINH CITY, VIET NAM  
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