

**A DESIGN OF NOVEL HYBRID THREE DIMENSIONAL TAILORED  
RADIO FREQUENCY (3D TRF) PULSE  
FOR SMALL VOLUME EXCITATION**

**NATEE INA**

**MASTER OF SCIENCE  
IN MEDICAL RADIATION SCIENCES**

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**THE GRADUATE SCHOOL  
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**A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN  
PARTIAL FULFILLMENT OF THE REQUIREMENTS  
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THIS THESIS HAS BEEN APPROVED  
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