

# **Basic Properties of Pyroelectric Crystals**

by

Matthew Evans

An Abstract of a Thesis Submitted to the Graduate

Faculty of Rensselaer Polytechnic Institute

in Partial Fulfillment of the

Requirements for the degree of

MASTER OF SCIENCE

Major Subject: Engineering Physics

The original of the complete thesis is on file  
In the Rensselaer Polytechnic Institute Library

Approved:

Dr. Yaron Danon, Thesis Adviser

Rensselaer Polytechnic Institute  
Troy, New York

July, 2010  
(For Graduation August 2010)

## **ABSTRACT**

A method was developed to determine the pyroelectric coefficient of individual pyroelectric crystals. To characterize the coefficient we measure the charge produced as a function of time. New investigation was conducted into understanding the charge inside the crystal. To reach this charge a hole was drilled into the crystal. Experiments were conducted by contact and emission from the drilled hole.