

Measurement of reactor flux at short baseline in search for possible oscillations arising from the existence of eV-scale sterile neutrinos

Pranava Teja Surukuchi
Illinois Institute of Technology
Chicago, IL 60616

Thursday 30th April, 2015

(in partial fulfillment of comprehensive exam for Doctor of Philosophy in Physics)

Contents

1 Neutrinos Background and theory

1.1 History

1.2 phenomenology

1.3 Establishment of certain properties in Neutrinos

1.4 Reactor Neutrino experiments

2 Anomalies

2.1 Reactor Antineutrino anomaly

2.2 all others

2.3 blahblah

2.4 Possible reasons for anomalies

3 PROSPECT

3.1 Location selection etc

3.2 Background

3.3 Detector characterisitcs

4 Proposed PhD research

5 Current work