Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

Submission author:	Hrishi Bora
Assignment title:	Physics
Submission title:	STUDIES ON NEUTRINO PHENOMENOLOGY IN THE CONTEX...
File name:	OLOGY_IN_THE_CONTEXT_OF_NON-ABELIAN_DISCRETE_FLAV...
File size:	10.64M
Page count:	95
Word count:	22,515
Character count:	112,308
Submission date:	02-Dec-2024 10:45AM (UTC+0530)
Submission ID:	2409062845

Chapter 1

Introduction

1.1 What are Neutrinos

Neutrinos are elementary particles that belong to the lepton family. They are fundamental particles and are not composed of smaller components. Neutrinos have a tiny, but non-zero mass. Their exact mass is not well known but is significantly smaller than that of other subatomic particles like protons or electrons. They have no electric charge, making them immune to electromagnetic forces. This makes them very difficult to detect, as they do not interact with charged particles or electromagnetic fields.

Neutrinos interact only via the weak nuclear force (one of the four fundamental forces of nature) and gravity. The weak interaction is so subtle that trillions of neutrinos pass through the Earth every second without causing any detectable impact. There are three known flavors of neutrinos. They are electron neutrinos, muon neutrinos and tau neutrinos which correspond to their association with their respective charged lepton counterparts.

One of the most intriguing aspects of neutrinos is their ability to change from one flavor to another as they travel, a phenomenon known as Neutrino Oscillation. This discovery confirmed that neutrinos have mass, which was a significant finding in particle physics.

1

STUDIES ON NEUTRINO PHENOMENOLOGY IN THE CONTEXT OF NON-ABELIAN DISCRETE FLAVOR SYMMETRY

by Hrishi Bora

STUDIES ON NEUTRINO PHENOMENOLOGY IN THE CONTEXT OF NON-ABELIAN DISCRETE FLAVOR SYMMETRY