

Investigation of Gamma Ray Shielding Properties of Zirconium doped Silica based Glass by using X-com Software

Project submitted to Central university of Himachal Pradesh in the School of Physical and Material Sciences, Department of Physics and Astronomical Science



Reg.No. CUHP20PGPAS01

Under the guidance of

Assistant Prof. Dr. Vikas Anand

Department of physics and Astronomical Sciences
Central University of Himachal Pradesh

by

Aditya Bharti

Study of α - ^{12}C Elastic Scattering Using: Phase Function Method

Project submitted to the Central University of Himachal Pradesh
In the School of Physical and material Sciences,
Department of Physics and Astronomical Science



(Reg. No. CUHP20PGPAS02)

under the supervision of

Prof. O.S.K.S. Sastri

Professor of Physics

Department of Physics and Astronomical Science
School of Physical & Material Sciences
Central University of Himachal Pradesh, Dharamshala

by

Aman Sharma

June 2022



Project Report for PAS-548

Synthesis and Rheological Properties of

Fe_3O_4

based magnetic nano-fluid

Amit Kumar

MSc 4th Sem — Roll. No. : CUHP20PGPAS03

2647amitkumar@gmail.com

Under the guidance of: Dr. Noorjahan

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

Temporary Academic Block, Shahpur, Kangra, Himachal Pradesh- 176206

DEPARTMENT OF PHYSICS & ASTRONOMICAL SCIENCE

A Comparative Study of α -scattering with ^3H and ^3He Nuclei using Phase Function Method

Project submitted to the Central University of Himachal Pradesh

In the School of Physical and Material Sciences

Department of Physics and Astronomical Science



(Reg. No. CUHP20PGPAS04)

under the supervision of

Prof. (Dr.) O.S.K.S. Sastri

Department of Physics and Astronomical Science

School of Physical & Material Sciences

Central University of Himachal Pradesh, Dharamshala

by

Amit Kumar

ENERGY STORAGE DEVICE

DEPARTMENT OF PHYSICS AND ASTRONOMICAL
SCIENCE

MSC.PHYSICS (4TH SEM)

CENTRAL UNIVERSITY OF HIMACHAL PRADESH



Under the supervision of -DR. Rajesh Kumar Singh

Submitted by -ANCHAL

(CUHP20PGPAS06)

GREEN SYNTHESIS AND CHARACTERIZATION OF NiO-ZnO
NANO-PARTICLES FOR THE DEGRADATION OF METHYLENE
BLUE



Submitted by:

Chandan Kumar

In partial fulfillment for the award of the Degree of

MASTER OF SCIENCE

IN

PHYSICS

UNDER THE ESTEEMED GUIDANCE OF

Dr. Pawan Heera

Perturbation in Tri-Bimaximal pattern of Neutrino mixing matrix and associated Phenomenology

Project Report

Under the course code PAS 548

submitted to the Central University of Himachal Pradesh
for the Partial Fulfilment of the Degree of

Master of Science (Physics)

In the School of Physical and Material Sciences

In the Department of Physics and Astronomical Science



Under the Supervision of Dr. Surender Verma

by

Gagandeep

(REG. NO. CUHP20PGPAS09)

June, 2022

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

“Ab-Initio Study of Superconductivity in Metal Hydrides”

Project Report

under the Course code PAS548

Submitted to Central University of Himachal Pradesh
for the partial fulfilment of Degree of
M.Sc. Physics

Department of Physics & Astronomical Science
School of Physical & Material Sciences
Central University of Himachal Pradesh
Dharamshala, Kangra (HP)



Under the guidance of:

Dr. Jagdish Kumar

Submitted by:

Gouri Pandey

(Roll no.:CUHP20PGPAS10)



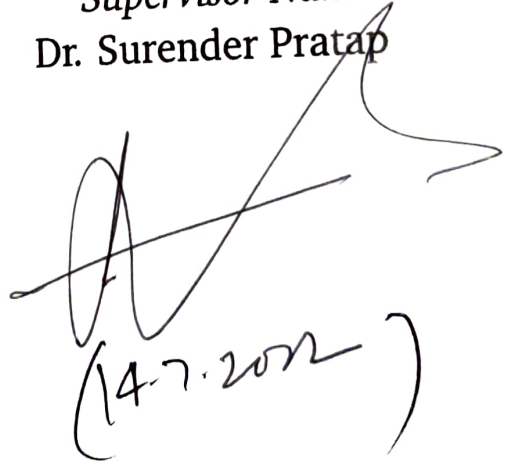
Department of Physics and Astronomical Sciences
Central University Of Himachal Pradesh - 176215,
Kangra (H.P), India

Electronic & Optical properties of MoS_2

Submitted by
Harinder Mohan

CUHPR20R/PAS11

Supervisor Name:
Dr. Surender Pratap



(14.7.2022)

Submitted in partial fulfillment of the requirements for the M.Sc. degree in
physics of Central University of Himachal Pradesh

14 July, 2022

Self-adjoint extensions of operators

A project thesis submitted in partial fulfilment of course entitled
Project(PAS 548) for the award

of
Master of Science
(Specialization in Theoretical Physics)
by

Kavita Kumari
(Reg.No. CUHP20PGPAS12)



under the guidance

of

Dr. Ayan Chatterjee

Department of Physics and Astronomical Science
School of Physical and Material Sciences
Central University of Himachal Pradesh, Dharamshala
District Kangra (Himachal Pradesh)-176215(India)



In the Department Physics and Astronomical Sciences

In the School of Physics and Material Sciences

SUBMITTED BY:

NAME: Luxmi devi

ROLL NO: CUHP20PGPAS13

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

Temporary Academic Block, Shahpur, Kangra,

Himachal Pradesh- 176206

Study of Integer Quantum Hall Effect in Graphene

Project submitted to the Central University of Himachal Pradesh

In the School of Physical and material Sciences,
Department of Physics and Astronomical Science



(Reg. No. CUHP20PGPAS14)

under the supervision of

Dr. Surender Pratap

Department of Physics and Astronomical Science

School of Physical & Material Sciences

Central University of Himachal Pradesh, Dharamshala

by

Nafisa Khatoon



CENTRAL UNIVERSITY OF HIMACHAL PRADESH

DEPARTMENT OF PHYSICS AND ASTRONOMICAL SCIENCE

PIN : 176206

Magnetoviscous Effects in Ferrofluids

Author :

Naresh Kumar

CUHP20PGPASIS

Supervisor:

Dr.Noorjahan

Submitted in partial completion of the MSc degree
requirements in Central University Of Himachal
Pradesh

To study the effect of substitution of Magnetic Elements (Co, Cr, Mn, Fe) at Sb site in LiMgPtSb type quaternary Heuslers Alloys

Project Report

submitted to the Central University of Himachal Pradesh
in the partial fulfillment of the course entitled
Project Work (PAS 548) for the award of

M.Sc. Physics
(Specialization in Theoretical physics)

Department of Physics & Astronomical Science
School of Physical & Material Sciences
Central University of Himachal Pradesh
Dharamshala, Kangra (HP)



Under the guidance of:

Dr. Jagdish Kumar

Submitted by:

Neeraj Walia

Roll No: CUHP20PGPAS16

Probing the environment of high redshift quasars using proximity effect.

Project submitted to the Central University of Himachal Pradesh

In the School of Physical and material Sciences,
Department of Physics and Astronomical Science



(Reg. No. CUHP20PGPAS18)

under the supervision of

Prof. Hum Chand

Department of Physics and Astronomical Science

School of Physical & Material Sciences

Central University of Himachal Pradesh, Dharamshala

by

Paryag Sharma

Analyzing absorption line seen in distant QSO spectra

Project Report

Submitted in partial fulfillment of
the requirements for the degree of

M.Sc. Physics
(Specialization in Theoretical Physics)
by
Rajat Kumar(CUHP20PGPAS21)

Supervisor: **Prof. Hum Chand**



Department of Physics and Astronomical Science
School of Physical and Material Sciences

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

**Optimum energy and angular momentum for
fusion of $^{40}\text{Ar}+^{110}\text{Pd}$ using intrinsic fusion and
symmetric fission barriers analysis**

A project submitted for the partial fulfillment of the course entitled
project work (PAS 548) for the award of M.Sc. Physics (Specialization
in Theoretical Physics)



Supervised by:
Dr. Dalip Singh Verma

Submitted by:
Rajesh Kumar
CUHP20PGPAS22

July 6, 2022

Department of Physics and Astronomical Sciences

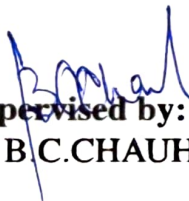
Central University Of Himachal Pradesh

DHARAMSHALA



Self Interacting Dark Matter

A project report submitted to the
Department of Physics and Astronomical Science
School of Physical and Material Sciences
in partial fulfillment for the award of degree of
Master of Science


Supervised by:
Dr. B.C. CHAUHAN

Submitted by:
Name - Riya Koundal
Roll No. - CUHP20PGPAS23

CENTRAL UNIVERSITY OF HIMACHAL PRADESH
DHARAMSHALA, DISTRICT KANGRA
HIMACHAL PRADESH-176215
INDIA
JULY 2022

Study Of Variation Of Wada's Constant Of Mixture Of Niacin With Alcohol In Aqueous Medium At Different Temperature

for submission to Central University of Himachal Pradesh in partial fulfilment of the requirements for the M.Sc. in Physics

Department of Physics and Astronomical Science, School of Physical and Material Sciences Shahpur Parisar, 176206



PROJECT REPORT

Submitted by : Sahil

Registration No. : CUHP20PGPAS24

Semester : 4th

Supervisor : Dr. Gourishankar Sahoo

Leptonic Unitarity Triangles and CP Violation

Project Report

Under the course code PAS 548

submitted to the Central University of Himachal Pradesh
for the Partial Fulfilment of the Degree of

Master of Science (Physics)

In the School of Physical and Material Sciences

In the Department of Physics and Astronomical Science



Under the Supervision of **Dr. Surender Verma**

by

Sahil Kumar

(REG. NO. CUHP20PGPAS25)

June, 2022

CENTRAL UNIVERSITY OF HIMACHAL PRADESH



Department of Physics and Astronomical Science
School of Physical and Material Sciences
Central University of Himachal Pradesh


Supervised by:

Prof. Bhag Chand Chauhan

Submitted by:

Name-Shakuntla

Roll no.-CUHP20PGPAS26

Leptogenesis via Baryogenesis

Project Report

Under the course code PAS 548

Study of Variation of Rao's constant of mixture of Niacin with alcohol in aqueous medium at different temperatures

Project submitted to the Central University of Himachal Pradesh

In the School of Physical and Material Sciences

Department of Physics and Astronomical Science



(Reg. No. CUHP20PGPAS27)

under the supervision of

Dr. Gourishankar Sahoo

Department of Physics and Astronomical Science

School of Physical & Material Sciences

Central University of Himachal Pradesh, Dharamshala

by

Shamli Sandhu

Hydrogen Fuel Cell (Solid Oxide Fuel Cell)



In the Department Physics and Astronomical Sciences

In the School of Physics and Material Sciences

SUBMITTED BY:

NAME: Vishal

ROLL NO: CUHP20PGPAS28

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

Temporary Academic Block, Shahpur, Kangra,

Himachal Pradesh- 176206

Electrode Materials for Supercapacitor
Department of Physics and Astronomical Science

MSc. Physics (4th Semester)

Central University of Himachal Pradesh

Under the Supervision of: - Dr. Rajesh Kumar Singh



RKS

Submitted by: - Shubham Bharmoria (CUHP20PGPAS29)

**Study of Variation of Acoustical Impedance
of Mixture Of
Niacin With Alcohol In Aqueous Medium
At Different Temperatures**

The dissertation is
Submitted for the purpose of partial fulfilment of
The requirements of
the degree of

M. Sc. in Physics

submitted to The **DEPARTMENT OF PHYSICS AND
ASTRONOMICAL SCIENCE, SCHOOL OF PHYSICAL
AND MATERIAL SCIENCES.**



Submitted by - **Sonam Chauhan**

Rollno. – **CUHP20PGPAS30**

Supervisor:- **Dr. Gourishankar Sahoo**

**CENTRAL UNIVERSITY OF HIMACHAL PRADESH
SHAHPUR PARISHAR, KANGRA 176206**

NEUTRINOLESS DOUBLE BETA DECAY

A Project report submitted to the
Department of Physics and Astronomical Science
School of Physics and Material Sciences
in partial fulfilment of course entitled (PAS548)
for the award of degree of Master of Science
(Specialization in Theoretical Physics)



Supervised by:
Dr.B.C.CHAUHAN

B.C. Chauhan

Submitted by:

Name : SUNAINA

REG No.: CUHP20PGPAS31

Course Code :PAS548

Central University of Himachal Pradesh
Dharamshala, District Kangra
Himachal Pradesh-176215
India
July 2022

Incident energy and angular momentum
correlation to the yield of Compound nucleus
formed in ${}^7\text{Li} + {}^{89}\text{Y} \rightarrow {}^{96}\text{Mo}^*$ reaction



MSc Physics

Department Physics and Astronomical Sciences

School of Physical and Material Sciences

CENTRAL UNIVERSITY OF HIMACHAL PRADESH

Temporary Academic Block, Shahpur, Kangra,

Himachal Pradesh- 176206

Under the guidance of:

Dr. Dalip Singh Verma

Submitted by :

Tanuj Chauhan

(Roll no. CUHP20PGPAS32)

Study of Deuteron Ground State using Quantum-Hamilton Jacobi Theory

Project submitted to the Central University of Himachal Pradesh

In the School of Physical and material Sciences,
Department of Physics and Astronomical Science



(Reg. No. CUHP20PGPAS33)

under the supervision of

Prof. (Dr.) O.S.K.S. Sastri

Department of Physics and Astronomical Science

School of Physical & Material Sciences

Central University of Himachal Pradesh, Dharamshala

by

Vishal Mehra