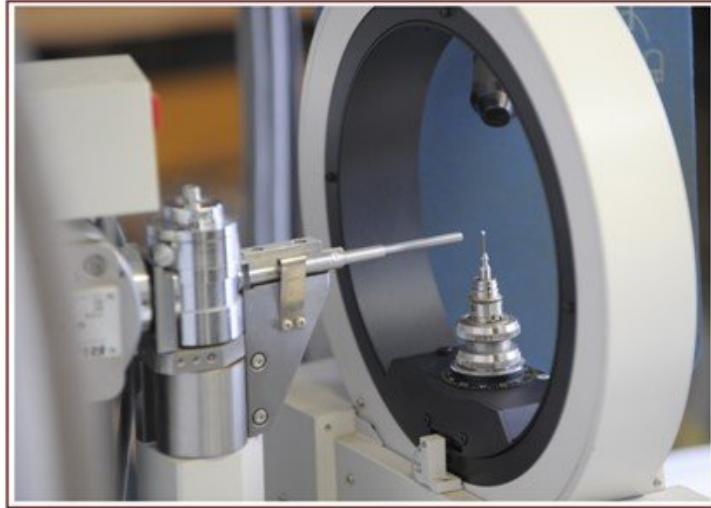


DEPARTMENT OF STUDIES IN **PHYSICS**



UNIVERSITY OF MYSORE
Manasagangothri, Mysore-570 006 India

COURSES OFFERED

- Two year M.Sc(4-semester)
- Five-year Integrated M.Sc course(10-semester)
- Ph.D

Two year M.Sc course details

First semester

- 1.1. Mathematical methods of physics-I
- 1.2. Thermodynamics, Classical and Quantum statistical Mechanics
- 1.3. Classical mechanics
- 1.4. Classical electrodynamics, Optics and Electronics

Second semester

- 2.1. Mathematical methods of physics-2
- 2.2. Continuum mechanics and relativity
- 2.3. Atomic Physics, Molecular physics and Modern Optics
- 2.4. Quantum mechanics-I

Third Semester

- 3.1. Nuclear physics and particle physics
- 3.2. Condensed matter physics
- 3.3. Choice based Credit based elective (As decided by the university)
- 3.4. Special subject-I (Nuclear Physics, Solid State physics, Theoretical physics)

Fourth semester

- 4.1. Elective paper/Project(several papers are available)
- 4.2. Special subject-2
- 4.3. Special subject-3
- 4.4. Quantum Mechanics-2

5-year Integrated M.Sc course details

This is a Ten-semester programme, for all details visit www.physics.uni-mysore.ac.in



TEACHING FACULTY

Prof D Revannasiddaiah

Condensed Matter Physics

Prof T K Umesh

Nuclear Physics and Atmospheric Physics

Prof L Paramesh

Nuclear Physics and Atmospheric Physics

Prof C Ranganathaiah

Positron Annihilation studies in materials Nuclear Physics

Prof R Somashekar

Condensed matter physics

Prof K S Mallesh

Theoretical Physics

Prof M A Sridhar

Condensed Matter Physics

Prof N K Lokanath

Condensed Matter Physics

Dr A P Gnana Prakash

Condensed Matter Physics

Dr M S Chandrashekhara

Nuclear Physics and Atmospheric Physics

Dr H B Ravikumar

Nuclear physics

Dr M Mahendra

Condensed Matter Physics

Dr S Krishnaveni

Nuclear Physics

RESEARCH PROJECTS COMPLETED/ONGOING

Prof D Revannasiddaiah - Title: Basic Research in Liquid Crystals ; Agency : CSIR ; Amt : 7.0 Lakhs, Dur : 1997-2000 ; Status : Completed

Prof D Revannasiddaiah and Dr A P Gnaa Prakash - Title: High-Energy Ion Irradiation Studies on SiGe Heterojunction Bipolar Transistors Using IV/CV/DLTS Techniques. Agency : IUAC/UGC. ; Amt: 5.0 Lakhs, Dur : 2008 -2011

Prof. T K Umesh - Title : Aerosol climatology ; Agency: ISRO. Amt: Rs. 10 lakhs ; Dur : 2003 - 2007. Status: Completed ; Title : Inner bremsstrahlung in X-ray and optical region Agency: DAE-BRNS ; Amt : Rs. 16 lakhs Dur : 2002 - 2005 ; Status: Completed

Prof L Paramesh - Title: Studies on Rn/Tn level at Mysore. Agency : BRNS, DAE Amt: Rs. 2.5 lakhs + Rs. 1 lakh Equipment ; Dur : 1997 - 2000

Prof C Ranganathaiah - Title: Electron beam induced miscibility changes ... Agency: DAE-BRNS ; Amt : Rs. 12 lakhs. ; Dur : 2004 - 2009 ; Status: Ongoing

Title: Microstructural Characterisation of polymer ... Agency: DST ; Amt: Rs. 19.33 lakhs; Dur : 2002 - Status: Ongoing

Prof R Somashekar - Title: SAXS studies on silk fibres ; Agency : CSIR ; Amt : Rs. 7.5 lakhs ; Dur : 2000 - 2004 Status: Completed ; Title: Characterisation of Materials exposed to High energy beams Agency: UGC Amt : Rs. 7.5 lakhs ; Dur : 2008 - Status: ongoing

Prof K S Mallesh - Title: Interaction of multilevel quantum systems ... Agency: UGC ; Amt : Rs. 0.1 lakhs; Dur : 2001 - 2003 Status: Completed

Dr M S Chandrashekara - Title: Mapping of Uranium, Radium, Radon and conventional pollutants like Nitrate, Nitrite, Sulphate, Sulphite, Fluoride, Chloride in natural water of Mysore district ; Agency: BRNS, Mumbai, Amt : Rs. 46.08Lakhs Dur : 2009- Status: Ongoing

Total no. of Publications to date : 915

Ph D's awarded to date : Male 108 Female 20 Total 128

ACTIVITIES

- 20th Refresher course in Physics for college teachers, March 2002
- 21st Refresher course in Physics for college teachers, July 2003
- Workshop for the designing the UG syllabus for B.Sc. (Physics) semester scheme, 2003
- 22nd Refresher course in Physics for college teachers, September 2004
- Two day school for M.Sc. Students arranged in collaboration with the JNCASR, Bangalore, October 2004.
- Refresher course in Experimental physics, sponsored by the Indian Academy of Sciences, Bangalore, November 2004
- Celebration of World Year of Physics -2005; Physics Seminar November 2005
- 1st Refresher course in Materials Science for college teachers, February-March 2006
- National Liquid crystal conference 2006
- ILCS National Seminar on liquid crystals, 2006
- 52nd DAE Solid State Physics Symposium, University of Mysore, 2007
- DRS-SAP, Three day Lecture-Workshop on Statistical Thermodynamics, 2007
- One day Physics Seminar on Novel Materials, 2008

VISITS ABROAD

Post Doctoral Fellow, Australia - Prof. C. Ranganathaiah

NASA Fellow, USA - Prof. C. Ranganathaiah

Visiting Scientist, France and South Korea - Prof. C. Ranganathaiah

KAAS - Young Scientist Award 1986- Prof. R. Somashekar

Research Associate, UMIST-Manchester, UK - Prof. R. Somashekar

Visiting Professor JSPS - Japan - Prof. R. Somashekar

Sir C.V. Raman Award - Prof. M. A. Sridhar

Visiting scientist - Japan & South Korea - Prof. N. K. Lokanath

Visiting Scientist - USA - Dr. M. Mahendra



TEACHING PROGRAMS

- From the beginning our teaching program was well appreciated. In fact according to one of the surveys, our curriculum was among the top ten M.Sc. Physics curricula in the country.
- The Department has been identified as a Department of Advanced Studies by the Government of Karnataka.
- The performance of the Department under the DST funded FIST program has been rated Good. We are also funded under UGC-SAP.
- As per the Web of Science, USA, University of Mysore ranks sixth in the country based on the number of publications in peer reviewed journals.
- The major contribution for this is from Physics Department. Our Department has been chosen to be the nodal centre for the India based Neutrino Observatory (INO) Project.
- ISRO has sanctioned Rs 25 lakhs to the department to offer Atmospheric Physics as an elective subject to our M.Sc students.
- Department has also received Infrastructure grants of Rs 20 lakhs as an SAP funded department from UGC



ACHIEVEMENTS

Professors of the department who have served as Vice chancellor
Prof. S. Gopal- Mangalore University
Prof. P. Venkataramaiah - Kuvempu University
Prof. J. Shashidhara Prasad- University of Mysore

RESEARCH FIELDS

Atmospheric Physics : Aerosol Climatology and MWR Studies, Atmospheric Electrical Conductivity.

Condensed Matter Physics : X-ray crystallography of medicinally important class of compounds, Structural Biology, Liquid Crystals, TLD, WAXS, SAXS on silk fibres. Environmental Radiation: Radon / Thoron Studies.

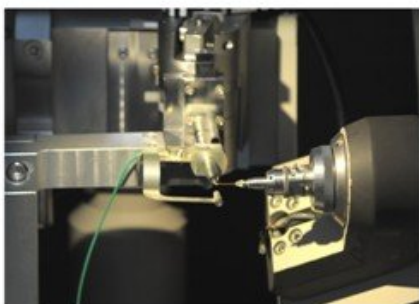
Nuclear Physics : X-ray and gamma ray interactions with matter, Positron Annihilation Studies in Polymers.

Theoretical Physics : General Relativity, Lorentz Group, Nuclear Physics and Polarisation Optics. A national facility for Single Crystal X-ray Diffractometer Research has been established in the department in 1995. This facility supports crystallographers from all over the country and the drug and pharmaceutical industries.

ACHIEVEMENTS

The Department was established in the year 1960. Today it is one of the major departments on the campus carrying out research in various areas of physics. Prof. S. Chandrasekhar, FRS, was the first Chairperson of the department. He laid the foundation for the research culture of this department. The Department offers a two year M.Sc. for undergraduate students. It also has introduced a novel five year integrated M.Sc. course for students who have finished their PUC. This program has attracted the attention of many academicians who are concerned about the lack of interest in basic sciences amongst youngsters. In addition, the faculty are also involved in guiding students for their doctoral degrees. The Department was among the first few in the country to be identified under the COSIP leadership project which was successfully carried out for a period of ten years from 1969 to 1979.

RESEARCH LABS



Labs : Crystallography The Facility has two single crystal diffractometers and so far has collected data for nearly 1500 samples which has resulted in more than 200 publications in peer reviewed journals.

X-ray diffractometer
Powder diffractometer
Positron Annihilation Lab
Environmental Radioactivity Lab
Computer Lab
TLD and Liquid Crystal Lab

