



College of Physics and Energy, Shenzhen University

Location

Shenzhen University, Shenzhen, Guangdong Province, China

Overview

Established in 1985 and composed of five teaching units and ten research institutes. Five teaching units include Department of Physics, Department of Applied Physics, Department of Nuclear Science and Technology, Center of University Physics Teaching and Center of Experimental Physics Teaching. Ten research institutes include Institute of Nuclear Technology Application, Institute of Thin Film Physics, Institute of Condensed Matter Physics, Institute of Breath Test Technology, the Joint Laboratory of Plasma Physics, the Joint Laboratory of Sensor Technology, the Joint Laboratory of High-purity germanium, Institute of National Energy Nuclear Power Operation and Life Management Technology R&D Center and the Center of Safety Technology of Nuclear Power Operation, Institute of Nuclear Safety Technology, the Engineering Laboratory of Optical Fiber Sensor Technology. There are 91 faculty members including one academican of Chinese Academy of Sciences, four experts of National "100-Elite Program", 15 professors and 29 associate professors.

Key Contact

Mrs. Yeping Zhang, College of Physics and Energy, Shenzhen University
Telephone: +86-755-26538735, E-mail: zhangyep@szu.edu.cn

Research Focus

- **Theoretical Physics covering four fields:** i) Quantum information and control; ii) Atomic and nuclear theory; iii) Cold atoms and Bose-Einstein Condensation; iv) Non-linear dynamics and complex systems.
- **Computational Physics majorly on two fields:** i) To explore the properties of various materials using first principles method, including solar cell materials, 2D materials and novel metal and semiconductors et al.; ii) To address the physics and material science of quantum transport in nanoscale electronic devices, including the properties of DC and AC transport, spin transport, Hall related effects, transient process, quantum inductance and capacitance, et al.
- **Nuclear Science and Technology**, including several aspects of nuclear spectroscopy, neutrino analysis, nuclear detectors manufacturing, nuclear environment, nuclear analysis technology in environment, radioactive marker drugs and instrument.
- **Thin Film Physics and Application.** The investigation is focused on the thin film fabrication, characterization and application, including thermal-electric thin film and device, photovoltaic thin film and device, functional thin film and transistor, energy-saving thin film and high end optical filters.
- **Sensor Technology and Application.** Focused on the sensor-based theory, sensor design, sensor performance test, multi-sensor information fusion technology, and integrated automation technology. Research interests include fiber sensor, sensitive thin film and nano-material, sensor application integration and key technology.
- **Plasma Physics.** Investigation includes plasma spray, microwave ECR plasma source enhanced magnetron sputtering, material modification by high energy ion beam, et al.
- **Detector Manipulation based on High-Purity Germanium.** High-purity germanium crystal can be widely used in nuclear detectors, solar cells, and infrared detection. The investigation of this aspect is focused on the properties of high purity germanium(12-13N) single crystal materials and its application for nuclear detectors.

For more details, please see <http://physics.szu.edu.cn>