



Dyrekcja Instytutu Fizyki
Akademii im. Jana Długosza w Częstochowie
Oddział Częstochowski
Polskiego Towarzystwa Fizycznego

zapraszają na seminarium naukowe:

***SCINTILLATORS: HISTORY, PRINCIPLES,
CHARACTERISTICS, STRATEGY OF RESEARCH
AND PRACTICAL APPLICATIONS***

prof. dr hab. Yuriy Zorenko

Uniwersytet Lwowski

które odbędzie się

20 stycznia 2010 (środa), godz. 12:00,

**Instytut Fizyki AJD, ul. Armii Krajowej 13/15
budynek B, sala 015**

Principle of scintillators working and something from history of their development. Underlying physics of scintillators. Main stage of scintillation processes.

Technology of preparation of scintillation materials: Czochralski and Bridgman methods, micro-pulling down technique, liquid-phase epitaxy, solid-state reaction and sol-gel technique, micro and nano-ceramics.

Main parameters and characteristics of scintillators: scintillation efficiency and energy resolution, emission wavelength, speed of scintillation response, chemical composition, density and effective atomic number Z_{eff} , radiation resistance.

Strategy of research of scintillation materials: concerted research of scintillators based on Tl^+ doped cesium iodide and Ce^{3+} doped aluminum garnets and silicates.

Applications of scintillators: radiation monitoring, medicine (CT and PET), security check, non-destructive testing; high energy physics, geology, etc.