



ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE  
ÚSTAV TECHNICKÉ A EXPERIMENTÁLNÍ FYZIKY

128 00 Praha 2 - Albertov, Horská 3a/22  
tel.: 22435-9391, 9290; fax: 22435-9392



## POZVÁNKA

na 273. seminář ÚTEP ČVUT v Praze  
pod záštitou Československé sekce NPSS IEEE

# Fast Neutron Detection Using Semiconductor Schottky Detectors Based on Semi-insulating GaAs and 4H-SiC

Assoc. prof. Andrea Šagátová

Institute of Nuclear and Physical Engineering, Faculty of Electrical Engineering and  
Information Technology, Slovak University of Technology in Bratislava

Dr. Bohumír Zaťko

Institute of Electrical Engineering, Slovak Academy of Sciences,  
Bratislava, Slovak Republic

**Abstract:** Current status of the research project APVV-0321-11 developing new types of semiconductor detectors of neutrons based on high quality 4H-SiC epitaxial layers will be presented. Recent studies show 4H-SiC as a suitable material for alpha, beta, X-ray, ion and neutron detection and spectrometry. Its high radiation and thermal hardness makes it one of the possible materials for fusion reactors. The main project objective is to measure the response to neutrons using prepared semiconductor detectors based on the 4H-SiC material with and without the conversion layer (HDPE and  $^6\text{LiF}$ ) and compare the experimental results with simulations in the MCNPX code. In the project, we utilize our experience with bulk semi-insulating GaAs detectors of neutrons and compare both results obtained with SiC and GaAs detectors.

Seminář se bude konat v úterý 12. srpna 2014 ve 14 hodin  
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Ing. František Krejčí, Ph.D.  
tajemník semináře

Ing. Stanislav Pospíšil, DrSc.  
ředitel

Doc. Ing. Carlos Granja, Ph.D.  
předseda NPSS, ČS IEEE

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