# SEMINARIUM Z MAGNETYZMU I NADPRZEWODNICTWA

Uprzejmie zawiadamiamy, że w **środę**

## 11 kwietnia 2018 r., o godz.10:00

**w sali 203** (bud. 1) odbędzie się seminarium, na którym

## Mgr Sukanta Kumar JENA

*Instytut Fizyki PAN, Warszawa*

wygłosi referat na temat:

# „Study of spin pumping in Co thin film vis-à-vis seed and capping layers using ferromagnetic resonance spectroscopy”

We have investigated the spin pumping of ferromagnetic material Co with different capping and seed layers by using Ferromagnetic Resonance Spectroscopy (FMR) [1]. The FMR spectrum is fitted with the Kittle equation to evaluate the Gilbert damping constant and the Lande *g*-factor. It has been observed that the Gilbert damping is relatively larger for the sample Ta(3nm)/Pt(3nm)/Co(3nm)/Pt(3nm)/Ta(3nm): 0.0326 ± 0.0008 and has the lowest value for the sample Ta(3nm)/Co(3nm)/Ta(3nm): 0.0104 ± 0.0003. The effective spin mixing conductance is larger for the sample Ta(3nm)/Pt(3nm)/Co(3nm)/Pt(3nm)/Ta(3nm) due to high spin orbit coupling and also magnetic proximity effect at the interface between Pt and Co. The lowest anisotropy for the sample Ta(3nm)/Co(3nm)/Ta(3nm) has been observed. It has been found that the evaluated *g*-factor decreases as the effective demagnetizing magnetic field increases. In second part, I will give introduction to inverse spin Hall effect and generation of the pure spin current by the spin pumping.

Reference:
1. Singh *et al.* J. Phys. D Appl. Phys. 50 (2017) 345001

Serdecznie zapraszamy

Roman Puźniak
Henryk Szymczak
Andrzej Wiśniewski