

FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

MLL-KOLLOQUIUM

Donnerstag, 07.07.2016, 16¹⁵ Uhr

Hörsaal der LMU in Garching, Am Coulombwall 1
Treffen zum gemeinsamen Kaffee 16 Uhr

Prof. Sibylle I. Ziegler

(LMU München, Klinik u. Poliklinik f. Nuklearmedizin, Großhadern)

Development of high-resolution detectors for simultaneous PET/MR imaging

Multimodal, multiparametric imaging improves biological characterization of tissue. While positron emission tomography (PET) combined with x-ray CT is clinically used since many years, the combination of PET and MRI in one device is technically challenging, especially if simultaneous acquisition is the goal. Semiconductor light sensors and fast scintillation crystals have facilitated the development of combined PET/MR scanners that are in clinical use now. New approaches using silicon photomultipliers (SiPM) for light detection show improved detector parameters. In a collaboration of nuclear medicine and physics at TUM, research is focused on the development of a small animal PET system that can be operated in a 7T small animal MR tomograph. Small, individually read out scintillation crystals are arranged in two radial layers in order to improve sensitivity and spatial resolution. Details of this design and the detector development, as well as the challenges in data processing will be described after introducing the state-of-the-art in PET/MR technology.

gez. Peter Thirolf
Tel. 289-14064

gez. Norbert Kaiser
Tel. 289-12367