

Measurement of the Point Spread Function of a Pixelated Detector Array

Wednesday, May 20, 2015 11:00 AM (1h 30m)

In order to further understand the PET/MRI scanner of our group, we measured the point spread function of a preclinical scintillation crystal array with a pitch of 1 mm and a total size of 30 mm × 30 mm × 12 mm. It is coupled via a lightguide to a dSiPM from Philips Digital Photon Counting, used on the TEK-setup. Crystal identification is done with a centre of gravity algorithm and the whole data analysis is performed with the same processing software as for the PET insert, giving comparable results. The beam is created with a 22 NA-Point-Source and a lead collimator, with 0.5 mm bore diameter. The algorithm sorted 62 % of the coincidences into the correct crystal.

Primary author: RITZER, Christian (Department of Physics of Molecular Imaging Systems, Institute for Experimental Molecular Imaging, RWTH Aachen University, Aachen, Germany)

Co-authors: Mr SCHUG, David (Department of Physics of Molecular Imaging Systems, Institute for Experimental Molecular Imaging, RWTH Aachen University, Aachen, Germany); Mr HALLEN, Patrick (RWTH Aachen University); Prof. SCHULZ, Volkmar (Department of Physics of Molecular Imaging Systems, Institute for Experimental Molecular Imaging, RWTH Aachen University, Aachen, Germany)

Presenter: RITZER, Christian (Department of Physics of Molecular Imaging Systems, Institute for Experimental Molecular Imaging, RWTH Aachen University, Aachen, Germany)

Session Classification: Session 11 - Poster Session II

Track Classification: 1 - Advances in MR-PET instrumentation: detectors