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Measurement of the Point Spread Function of a Pixelated Detector Array

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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.

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