

Potential of the J-PET tomograph for multi-photon medical imaging

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The Jagiellonian Positron Emission Tomograph (J-PET) is the first PET built from plastic scintillators. J-PET prototype consists of 192 detection modules arranged axially in three layers forming a cylindrical diagnostic chamber with the inner diameter of 85 cm and the axial field-of-view of 50 cm. An axial arrangement of long strips of plastic scintillators, their small light attenuation, superior timing properties, and relative ease of the increase of the axial field-of-view opens promising perspectives for the cost effective construction of the whole-body PET scanner, as well as construction of MR and CT compatible PET inserts. Present status of the development of the J-PET tomograph and its possibilities for multi-photon and positronium imaging will be presented and discussed.

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