

Application of Geiger-mode avalanche photo-diode MPPC for PET readout

Various samples of the newly produced Multi-Pixels Photon Counter (MPPC from Hamamatsu) have been characterized and their properties are compared. The samples differ in the total number of active pixels as well as in the total detector area. Their enhanced blue sensitivity allows to consider direct coupling to organic and inorganic scintillators. The application for time resolution PET readout is considered. First measurements are presented of time resolution obtained with a test system consisting of two inorganic scintillator crystals coupled to MPPC readout. Various combinations of crystal-MPPC systems are tested differing for the crystal type and size and for the size of the MPPC active area.