

P33 | **Measurement of gamma quantum interaction point in plastic scintillators with WLS strips**Shivani<sup>1,\*</sup>, J.Smyrski<sup>1</sup>, for the J-PET Collaboration<sup>1</sup><sup>1</sup>*Faculty of Physics, Astronomy and Applied Computer Science, Jagiellonian University, S. Łojasiewicza 11, 30-348 Cracow, Poland*

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The feasibility of measuring the axial co-ordinate of a gamma quantum interaction point in a plastic scintillator bar via the detection of scintillations photons escaping from the scintillator with an array of wavelength-shifting (WLS) strips is demonstrated. Using a test setup comprising a BC-420 scintillator bar and an array of 16 BC-482A WLS strips. We achieved a special resolution of 5mm ( $\sigma$ ) for annihilation photons from a <sup>22</sup>Na isotope. The studied method can be used to improve the special resolution of a plastic scintillator based PET scanner which is being developed by the J-PET collaboration.

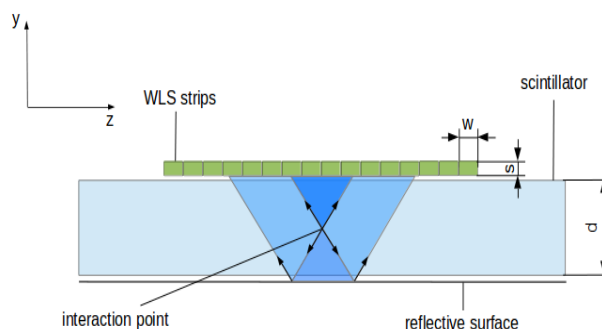


Fig.1. Principle of measuring the axial coordinate of the gamma quantum interaction point in a plastic scintillator bar using an array of WLS strips.

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