

Active stopper concepts employing scintillators

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Besides active stoppers with segmented Si detectors, plastic scintillator based approaches are followed within the DESPEC collaboration for experiments at the fragmentation facilities at GSI and FAIR. The main advantage is the excellent fast timing properties of plastic scintillators and the relative simplicity and robustness of the signal generation and processing.

Two distinct projects are currently pursued, bPlast and FIMP. The bPlast detector consists of 3 mm thick plastic sheets with SiPM readout along the edges. It can detect implanted ions and beta or alpha particles from subsequent decays. bPlast has a position sensitivity in the order of cm and a sub ns time resolution. FIMP consists of orthogonal layers of scintillating fibers, pushing the position resolution to the mm range. The concepts, current achievements, challenges and limitations will be discussed.

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