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## FTM detector for fast timing applications

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Recently introduced, the FTM detector is conceived as a high-rate capable Micro-Pattern Gaseous Detector (MPGD) designed for applications requiring fast timing such as high luminosity accelerators and medical imaging. The FTM structure consists of alternating drift and gain regions, using resistive coatings, such that signals from each multiplication stage can be read out by the external readout electrodes through capacitive coupling. Simulations showed that a time resolution below 300 ps can be reached with a 16-layers FTM operated at 3 kV/cm drift and 130 kV/cm amplification fields in Ar:CO<sub>2</sub> 70:30 gas mixture. Extensive simulations of different parameters such as geometry, collection efficiency and gain have been performed aiming at optimizing the detector.

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