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LGAD enabling technology for 4D tracking and timing measurements in experiments with ions, accelerators and for medical applications

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In this contribution we will review a wide variety of LGAD applications ranging from the timing measurements for HL-LHC (HGTD for ATLAS and MIP Timing detector for CMS) to reaction time detector for experiments utilizing proton and pion beams with the High Acceptance Di-Electron Spectrometer (HADES), at GSI Darmstadt, Germany, and to beam structure monitoring for medical applications (MedAustron). Very brief overview of LGAD's application in astrophysics will be presented as well. In addition, a prospect of LGAD to be utilized at the Future Circular Collider (FCC) will be discussed. The advantages as well as the limits of LGADs in regard to the specific experimental conditions and the nature of beams and particles to which they are exposed will be explained.

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