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Electric field measurement in LGAD

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We propose a novel methodology to measure the electric field of LGAD. This method introduces the estimation of the elongation of the carrier cluster caused by diffusion and the divergence of the electric field force during its drift along the detector. The maximum of time derivative tested from edge-TCT is extracted to quantify the dispersion of the light-induced carriers. Both RASER simulation and experimental results have shown that the diffusion profile method could be applied to certain edge-TCT facilities as an alternative of electric field measurement.

Primary author: Ms XIAO, Suyu (Shandong Institute of Advanced Technology, China)

Presenter: Ms XIAO, Suyu (Shandong Institute of Advanced Technology, China)

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