

# 41st RD50 Workshop on Radiation Hard Semiconductor Devices for Very High Luminosity Colliders (Sevilla, Spain)



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## TI-LGAD: beta, test beam and TCT characterization

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We present results of a systematic characterization of the novel Trench-Isolated LGAD (TI-LGAD) technology using a radioactive beta source setup as well as a test beam. New results from a TCT setup are presented and compared with previous ones. The devices under study belong to the first production of pixelated TI-LGADs at FBK carried out in the framework of the RD50 collaboration. The TI-LGAD is a variation of the Low-Gain Avalanche Detector (LGAD) in which the isolation between neighboring pixels is achieved by etching trenches in the inter-pad area. TI-LGADs display the same outstanding performance as LGADs in terms of time resolution, while at the same time allowing for a smaller inter-pixel distance. Several structures have been tested at different irradiation fluences in our beta setup at the University of Zurich.

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