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The Deep Junction LGAD: Concept and Progress [US - afternoon]

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Achieving granularity below the 1 mm scale (100 um or less) while maintaining high efficiency, precise timing, and good spatial resolution is a goal of continued R&D on silicon diode Low Gain Avalanche Detectors (LGADs). One approach, proposed by the SCIPP ultrafast sensor R&D group, is to make use of the diode junction to create avalanche-generating fields within the sensor, and then to bury the junction underneath several microns of n+ material to keep surface fields low, and allow for conventional pixelization techniques. In this talk, we will remind the audience of the principles of operation of the Deep Junction LGAD, and present updates relating to its design and fabrication.

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