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Progress in R & D on silicon edgeless strip detectors with Current Terminating Structure

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The overview on silicon edgeless strip detectors developed for close-to-beam experiments at CERN will be presented. The recent progress of these detectors is related to the elaboration of the specific design - edgeless detectors with current terminating structure that was successfully realized in p-on-n Si edgeless detectors for the TOTEM experiment. The potential and electric field distributions at the detector sensitive diced edge which control the detector operation are simulated and studied experimentally using two methods –MicroProbe Technique and Scanning Transient Current Technique. The model of edgeless detector operation is developed and applied for predictions on radiation hardness of edgeless detectors.

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