Scribe-Cleave-Passivate (SCP) Slim Edge Technology for Silicon Sensors

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We are pursuing a "slim edge" technology which allows a drastic reduction of inactive region along the perimeter of silicon detectors. Such reduction would benefit construction of large-area tracker and imaging systems. Key components of this method are surface scribing, cleaving, and passivation of the resulting sidewall. We will give an overview of the project, describe the on-going studies within frameworks of RD50 and ATLAS collaborations, and show recent progress. A particular emphasis will be given to device performance: charge collection near the edge and studies of radiation hardness of the slim edge technology.

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