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## **Semiconductor detectors in high luminosity environment**

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As the final touches are being put to the LHC detectors, the race is on to perfect technologies which could be used to confront the challenges of the ultra high luminosities at the SLHC and ILC. The achievements of the current detectors must be extended, with ever more hostile radiation environments, ever shorter signal shaping times and ever increasing emphasis on the highest possible granularity combined with the lowest possible mass. In the semiconductor detector field, dedicated studies have identified many mechanisms behind radiation damage and pointed the way towards the use of new techniques such as MCz silicon and p-type sensors. In the most extreme environments, completely new approaches, such as the use of diamond, or 3D sensor technologies will be essential. Pixel technology, which has been successfully employed to build large scale vertex detection systems for the LHC, will be pushed towards higher density, lower mass and greater integration, to satisfy in particular the ILC requirements. I will review the highlights of the current generation of semiconductor detectors and discuss some of the exciting prospects for future developments.

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