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Performance and Aging of the Run-II CDF Silicon Detector

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The CDF Run-II silicon microstrip detector has witnessed 12 fb-1
of proton-antiproton collisions over the last 10 years.
It has shown remarkable performance, with 90% of its channels
functional, 80% error-free, and only one of its eight layers
near the operational limits for full depletion.
The measured bias currents, depletion voltage and
signal-to-noise ratio of
these sensors provide unique information about the behavior of
sensors irradiated slowly over a long period of time.
Charge collection measurements from irradiated, double-sided sensors
reveal a doubly-peaked electric field inside the sensors
that is weaker in the center and stronger at the edges.

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