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The CDF Silicon Detector: Performance and Longevity SABASTIAN CARRON MONTERO, FNAL, CDF COLLABORATION — The CDF Run II silicon detector is the largest operating silicon detector in High Energy Physics. Its 722,000 channels spread over 7 m^2 of silicon micro-strip sensors allow precision tracking and vertexing. The CDF silicon detector played a critical role in the discovery of Bs mixing and is used extensively for the current Higgs Boson searches. Over the last 7 years, the detector efficiency has remained stable at 95 % after the Run II commissioning period. While originally designed to withstand up to 3 fb^{-1} of data, the CDF silicon detector will have to last until the end of Run II when 10 fb^{-1} of data is expected to be delivered. In this talk we describe the study of the evolution of the silicon detector performance as radiation damage becomes more severe, specifically after the innermost layers of the detector have crossed the so-called inversion point.

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