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**Development and Application of a new device,
the Silicon Drift Detector,
for the STAR project**

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Summary

A Silicon Drift Detector is a novel state of the art position sensing device that combines the best features of gas drift chambers with the advantages of a semiconductor detector. In this thesis, I describe the design development and application of a large area linear Silicon Drift Detector, developed for use in the STAR experiment at the Relativistic Heavy Ion Collider (RHIC). Detector characteristics and performance are documented with results from laboratory tests and from measurements in experiment E896 at the AGS at Brookhaven National Laboratory.

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