

# R&D for the Forward Silicon Tracker at STAR

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## Abstract

The STAR experiment at the Relativistic Heavy Ion Collider is planning to extend its capability to the forward pseudorapidity region ( $2.5 < \eta < 4$ ). A set of detector upgrades, including a silicon tracker and small thin gap chambers as the Forward Tracking System (FTS), an electromagnetic and hadronic calorimeter as the Forward Calorimeter System (FCS), are currently designed and will be constructed and installed after the phase II of the Beam Energy Scan program. These upgrades will help STAR to address some open questions in QCD physics, examples are, nucleon spin structure, parton saturation, and transport properties of matter in relativistic heavy ion collisions.

In this presentation, I will focus on the hardware R&D of the silicon tracker in the FTS, as well as the results from simulations on the performance of the tracking system.