

LANL contributions to the EIC Yellow Report

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LANL EIC Yellow Report contribution plan (I)

- Work in progress:
 - Characterize several advanced silicon techniques such as the Monolithic Active Pixel Sensor (MAPS) in lab and provide the summary table for the silicon technique candidates.
 - Provide the conceptual detector design for a forward silicon tracking detector at the EIC in collaboration with JLab, BNL and other collaborators.
 - Physics performance (such as heavy flavor hadron reconstruction) on detector options in fast simulation. See details in <https://arxiv.org/abs/2002.05880>.
 - Integration into the physics simulation such as the jet and heavy flavor topic.

LANL EIC Yellow Report contribution plan (II)

- Work just starts:
 - Work with the **BNL/JLab** colleagues to setup the **Fun4All/G4E** framework to implement the proposed forward silicon tracker in Geant4.
 - Update the conceptual design of the proposed forward silicon tracker detector and study the occupancy and tracking performance.
 - Join the tracking software developments for the EIC simulation.