

Charting a course to the 2nd Detector and Interaction Region

DPAP Report on 2nd Detector/IR

- “A strong case for *two complementary general-purpose detectors* has been made during the panel review”
- “...requires a *well-chosen balance between optimization as general-purpose detector versus partial specialization* and the ability to cross check the other detector for a broad range of measurements. The design of a second detector should be chosen with these criteria in mind.”
- “The time required for its design and construction may offer *opportunities for benefiting from technological progress.*”
- “As laid out in the section 2.1 on physics performance, *an IR with a secondary focus can significantly broaden the physics scope and output of the EIC.*”

In late spring 2022 the EICUG Steering Committee decided to form a working group and solicit volunteers to organize the 2nd Detector effort. This group was put in motion at the July EIC Users Meeting.

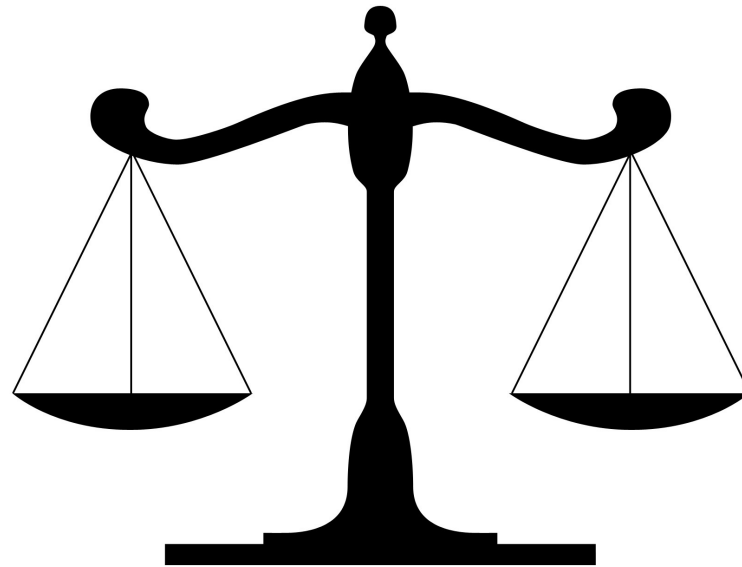
Charge for Detector II/IP8 Group

1. Engage the broader community, ***including theorists, accelerator physicists and ePIC experimentalists***, to fully develop projections for the portfolio of measurements that are complementary to the ePIC physics program, including those that capitalize on the implementation of the secondary focus.

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Which pieces of the EIC science case will the 2nd Detector focus on?



What new science or technology focus can a 2nd Detector/IR bring to an EIC?

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2. Work with the EICUG Steering Committee and Project to ***recruit new institutions*** and establish a diverse and vibrant 2nd Detector working group.

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The Electron-Ion Collider – The Benefits of Two Detectors

Recently distributed to international points-of-contact.



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3. Utilize the extended design period for Detector 2 to identify groups that will focus on ***R&D for emerging technologies*** that could provide another aspect of complementarity to ePIC.

It is important this group has an organized approach to utilizing the Generic R&D funds for this effort.

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4. Facilitate the development of a ***unified concept*** for a general-purpose detector at IR8. In particular, the 2nd detector should be complementary to the project detector at IR6 and may capitalize on the possibility of a secondary focus at IR8.

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Detector II/ IP8 Working Group Members

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- Thomas Ullrich
BNL/Yale
- Anselm Vossen
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YOU?