

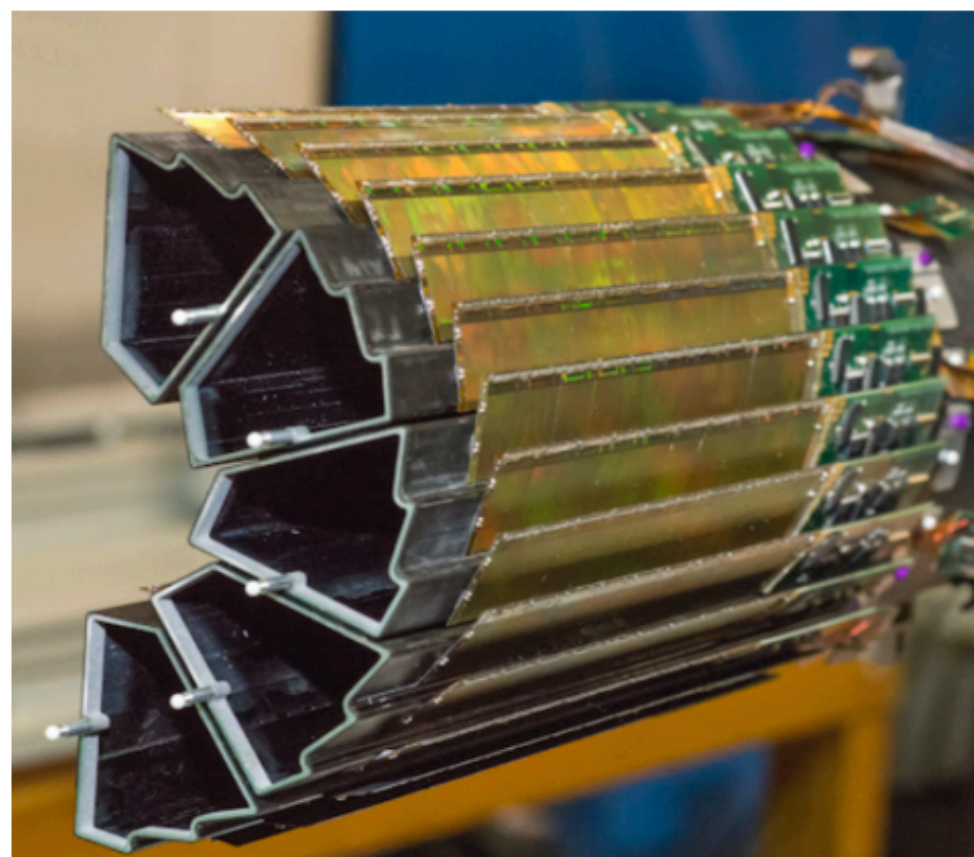


Berkeley Groups

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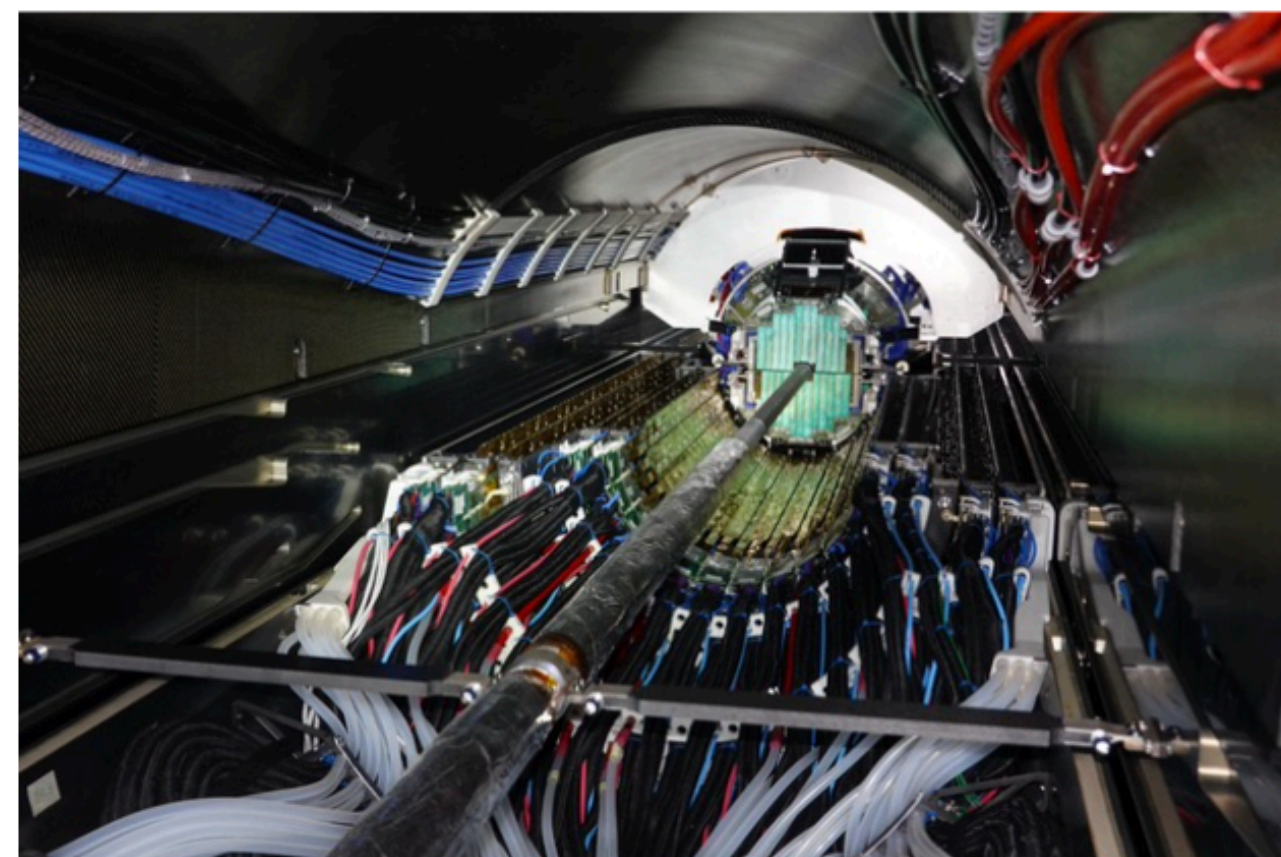
Recent MAPS instrumentation efforts within the LBNL NSD Relativistic Nuclear Collisions program:

STAR HFT:



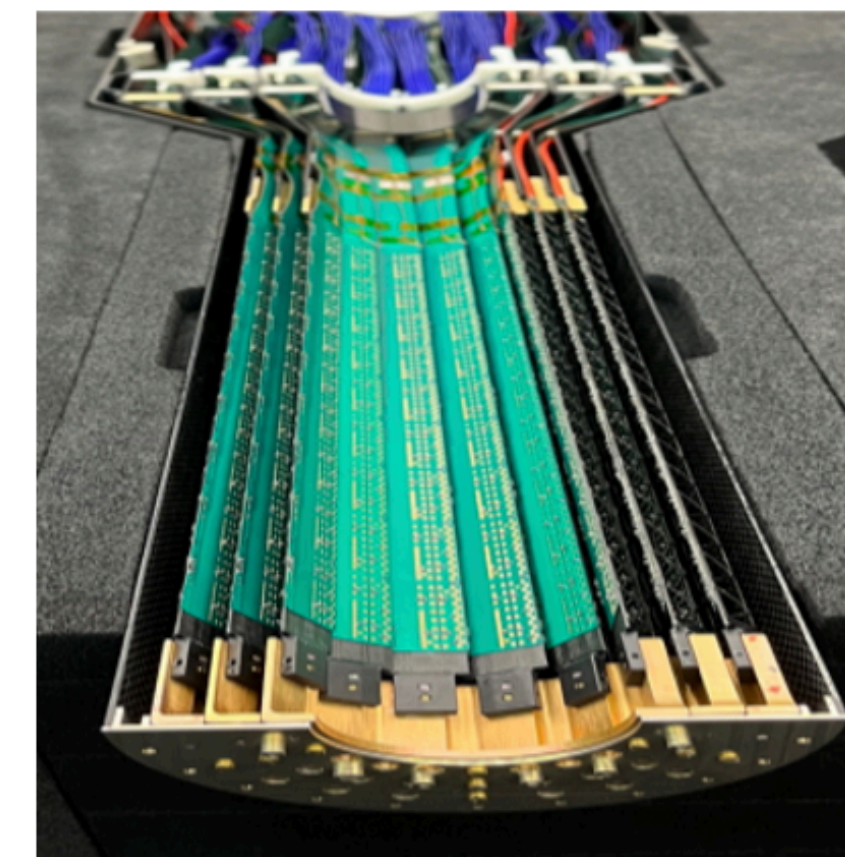
G. Contin et al NIM A 907 (2018) 60-80

ALICE ITS2:



J. Phys. G: Nucl. Part. Phys. 41 (2014) 087002

sPHENIX: MVTX



Involvement from beginning (concept) to end (publication). Typically in close collaboration with University of California groups (Berkeley, Davis, ...), and collaborators world-wide.

Local access to extensive facilities and capabilities, including mechanical and electrical engineering, silicon design; carbon fiber composite shops, machine shops, clean rooms, radiation effects testing.

Note: LBNL is an U.S. DoE Office of Science Laboratory. Augmentation of construction costs from other DOE sources is not possible. However, in the past, the Office of Nuclear Physics has allowed scientific effort to be redirected to a broad range of tasks that can be undertaken by physicists. Engineering, technician effort will need to be supported by the project.

Over time, typically two RNC scientific staff members with postdocs and students have been able to directly focus on instrument effort (separate from physics simulations, admin, etc.), working closely with a similar number of engineers (mechanical, electrical).

Long-term interests in EIC, its instrumentation, and physics — see e.g. Expression of Interest at <https://indico.bnl.gov/event/8552/>

Past efforts towards the SVT have included initial the concept, simulations, generic R&D, various collaboration roles.

Ongoing project R&D is in the context of:

- eRD111 — (modules), mechanics, cooling, and integration; funded at the level of 1 FTE mechanical engineering + tech. support
emphasis: disks, inner layers, cooling, global supports
- eRD113 — sensor development and characterization; (just) funded at the level of 1 FTE silicon designer
emphasis: DPTS test setup being exercised, silicon design effort can and will (now) start,

Interests going forward:

- Collaborate with institutions interested in ePIC SVT
- Sensor development and characterization (eRD113 contributions),
- Mechanical, cooling, and integration R&D for disks and (inner) barrel layers (eRD111 contributions),
- Contribute to construction of L0-L2, disks, global mechanical supports,
- Emphasis on aspects of WP1, 2, 3, 5, and simulations (6).

ePIC SVT is the main instrument focus of RNC into EIC.