

Project Detector SIDIS group

**Inaugural Project Detector
SIDIS meeting
April 27, 2022**

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Organizational

- Meetings: for the time being bi-weekly Tuesdays 9:15 EDT (15:15 CEST/22:15 JST)
- Indico agenda: <https://indico.bnl.gov/category/418/> (subscribe to either this or general project-detector indico calendar to automatically see in your calendar)
- Mailing list: please subscribe to eic-projdet-semiincl-1@lists.bnl.gov (but initial announcements will also be sent to ecce physics /Athena SIDIS lists)
- Slack/Mattermost → follow software group guidance

Detector differences ECCE - ATHENA

- Magnetic field (1.5 vs 3T)
- Backward HCAL (not planned at the moment as backward hadrons low-energetic → tracking resolution better, little non-EM neutral activity)
- Details in tracking planes, support and services, TOF detector choices, etc
- Software choices: Follow the software group (may be determined by timescale to CD2/3 review as all pieces available in Fun4All)

List of goals (input appreciated!)

- Need to prepare benchmarks for updated/different detector configurations on main SIDIS topics (kinematic reco/resolutions, single hadron ALL, TMDs, dihadrons, etc)
- Open aspects:
 - Kine: use also EMCAL info for electron, add Sigma method, optimizing DA/JB → find optimal reconstruction methods
 - Radiative corrections
 - Documentation
 - Realistic hadron PID, electron ID
 - Gluon Sivers (di-jet/HF)
 - Di-hadrons
 - nFF, etc
 - More realistic simulations (beam gas backgrounds, low-Q2 background,..)
 - PDF/FF/MC-tune variations
 - Unfolding (PID, kinematics)