

Analysis Coordination

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Salvatore Fazio, Rosi Reed

Early Physics Workshop → Friday, Sept 13th

- Draft Schedule starting at 1030 am ET
 - <https://indico.bnl.gov/event/24432/>
 - Introduction (15 mins)
 - The Phase-1 Electron-Ion Collider (Sergey – 30 mins)
 - Perspectives on EIC Early Physics (thoughts from each PWG)
 - Perspectives = first impressions
 - What are the priorities of the field?
 - How well does the EIC phasing match a graded approach to achieving those goals, etc.?
 - Contributed Contributions: (20-30 minutes) → Three minutes each, three slides
- Based on our discussion today, spokespersons will email the PWG conveners with a “charge” for the workshop

EIC Baseline – Phase 1

- Change in baseline (independent of phasing) since Nov 2023 DOE review:
 - Add hadron precoolers
 - replace a 400-MeV NC commercial linac with a 3-GeV SRF (1.3 GHz) linac as injector to the RCS
- Phase I:
- HSR (Hadron Storage Ring): no SHC (Strong Hadron Cooling), add hadron precoolers, no 41-GeV bypass
- ESR (Electron Storage Ring): 5-10 GeV, 7 nC max (means fewer rf cavities and amps); maybe no crabs (may require lower proton bunch intensities)
- RCS (Rapid Cycling Synchrotron): operates with a 7-nC (single bunch), 3 → 10 GeV, ramps at 1 Hz
- Luminosity: Need more information on the ramp-up vs time
- Polarization: (current plans, not necessarily machine limits)
 - Transversely polarized protons available for physics in Year-3
 - Longitudinally polarized protons available in Year-4
 - Polarized He-3 (L/T) available in Year-5
 - Polarized electrons available in Year-6

EIC Baseline – Phase 2 (5 – 7 years after Phase 1)

- HSR: add SHC, add 41-GeV bypass
- ESR: add rf cavities and power to operate at 28 nC and 18 GeV add crabs
- RCS: upgraded to 28 nC and 3 → 18 GeV ramps (at 1 Hz)
- This is not relevant for the early physics workshop, but should be kept in mind for the TDR