Agenda for Pavia Meeting (2nd EIC YR Workshop)

- ❑ There are four parallel sessions for the PWG+DWG
- ❑ Out of these there are two sessions for PWG+DWG interactions
  - ➢ One session in parallel with focus on physics with forward and central detector
  - ➢ One "plenary" session on work flow, procedure for updating interactive matrix etc.
- ❑ Two sessions (3-4 hours total) remain for joint DWG subgroup meetings

Parallel Part 1	PID+Tracking	Forward+Central	Calorimetry+Ancillary?
Parallel Part 2	PID+Calorimetry	DAQ/Electronics	?

  - ➢ Need the proposed program for these joint sessions
  - ➢ Additional joint sessions?
- ❑ Talk "Answers to FAQ on complementarity in detectors and IRs" – part of Friday morning plenary?

DWG specific goals

http://www.eicug.org/web/content/yellow-report-initiative

(This slide was distributed at the March Temple meeting)

- **Develop a strategy for each subgroup to meet the overall goals, e.g.**
  - Define tasks and deliverables
  - Identify resources
  - Develop a plan for interaction with PWG and SWG

- **Start collecting for each technology input for detector complementarity studies (information collection will continue in the next months at least till the August meeting), e.g.**
  - Performance (momentum, energy resolution, material budget, …)
  - What drives the systematics of a detector using this technology
  - Time needed until the technology is ready for mass production and available workforce

DWG input for the Pavia meeting status update

- **Summary of each subgroup's strategy and status to meet the overall goals**
- **Status of collecting for each technology input for detector complementarity studies (information collection will continue in the next months at least till the August meeting), e.g.**
  - Example: list for a given region in the interactive matrix all technologies (e.g. current EIC R&D) and its properties

View Matrix | View Model | View Help | Login to Edit

η	Nomenclature			Tracking			Electrons		π/K/p		HCAL	Muons
				Resolution	Allowed X/X_0	Si-Vertex	Resolution σ_E/E	PID	p-Range (GeV/c)	Separation	Resolution σ_E/E	
-6.9 to -5.8	↓ p/A	Auxiliary Detectors	low-Q2 tagger	σ_{θ}/θ < 1.5%; 10⁻⁶ < Q2 < 10⁻² GeV2								
...												
-4.5 to -4.0			Instrumentation to separate charged particles from photons									
-4.0 to -3.5							2%/√E					
-3.5 to -3.0		Central Detector	Backward Detector	σ_p/p ~ 0.1%⊕0.5%	~5% or less X	TBD		π suppression up to 1:10⁴	≤ 7 GeV/c	≥ 3 σ	~50%/√E	
-3.0 to -2.5												
-2.5 to -2.0				σ_p/p 0.1%⊕0.5%			2%/√E					
-2.0 to -1.5				σ_p/p 0.05%⊕0.5%			7%/√E					
-1.5 to -1.0							7%/√E					
-1.0 to -0.5			Barrel	σ_p/p ~0.05%×p+0.5%		σ_{xyz} ~ 20 μm ⊕ σ(z)~σ(rΦ) ~ 20/pTGeV μm + 5 μm	(10-12)%/√E		≤ 5 GeV/c			TBD
-0.5 to 0.0												
0.0 to 0.5												
0.5 to 1.0												
1.0 to 1.5			Forward Detectors	σ_p/p ~0.05%×p+1.0%		TBD			≤ 8 GeV/c		~50%/√E	
1.5 to 2.0												
2.0 to 2.5									≤ 20 GeV/c			
2.5 to 3.0				σ_p/p ~ 0.1%×p+2.0%								
3.0 to 3.5									≤ 45 GeV/c			
3.5 to 4.0	↑ e	Auxiliary Detectors	Instrumentation to separate charged particles from photons									
4.0 to 4.5												
...			Neutron Detection									
> 6.2			Proton Spectrometer	$\sigma_{intrinsic}(|t|)/|t|$ < 1%; Acceptance: 0.2 < pt < 1.2 GeV/c								

https://physdiv.jlab.org/DetectorMatrix/