



Electron
Injection
Line

Possible
Detector
Location

Electron Injector

Detector II Workshop Discussion Session

May 19, 2023

Outline for this Session

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1. Huge thank you to Bernd Surrow and his team for offering to organize this workshop. The Temple facilities are fantastic, and your generosity is very much appreciated. Thank you to Abhay and the CFNS team for their flexibility and (seemingly endless) support.



Outline for this Session

1. Thank you!
2. Golden Channels
 - What channels did you find most exciting?
 - Which channels capitalize on potentially unique capabilities of Det II?
 - Focus on a handful and start fast simulation to quantify detector requirements for these channels

Outline for this Session

1. Thank you!
2. Golden Channels
3. Future roadmap
 - Outline broadly milestones for the Det II community

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1. Thank you!
2. Golden Channels
3. Future roadmap
4. Additional topics from the audience?

Golden Channels Strawman

CHANNEL	PHYSICS	DETECTOR II OPPORTUNITY
Diffractive dijet	Wigner Distribution	detection of forward scattered proton/nucleus + detection of low p_T particles
DVCS on nuclei	Nuclear GPDs	High resolution photon + detection of forward scattered proton/nucleus
Baryon/Charge Stopping	Origin of Baryon # in QCD	PID and detection for low p_T $\pi/K/p$
F_2 at low x and Q^2	Probes transition from partonic to color dipole regime	Maximize Q^2 tagger down to 0.1 GeV and integrate into IR.
Coherent VM Production	Nuclear shadowing and saturation	High resolution tracking for precision t reconstruction

These channels are just a starting point, a way to initially focus activities within the group. Additional ideas and efforts are welcome!

Future Activities & Milestones

- Launch dedicated letter writing campaign to grow detector II effort through international grass-roots networking. Reach out to our colleagues and ask for help finding potentially interested groups that are available on detector II timeline.
- Plan on an international workshop series to discuss
 1. Detector requirement for Det II golden channels
 2. New and/or complementary technologies to measure Det II golden channels
 3. Introduction of new physics channels and ideas for the EIC

First workshop will be in Warsaw this summer!

- Work towards an expression of interest or letter of intent that summarizes opportunities and complementarity of Det II @ EIC.

The floor is open! What else should we discuss?



I'm now going to open the floor to questions.