OAK RIDGE National Laboratory

GP-SANS January 2024 Run Analysis Working Groups

Matthew Frost – February 1, 2024

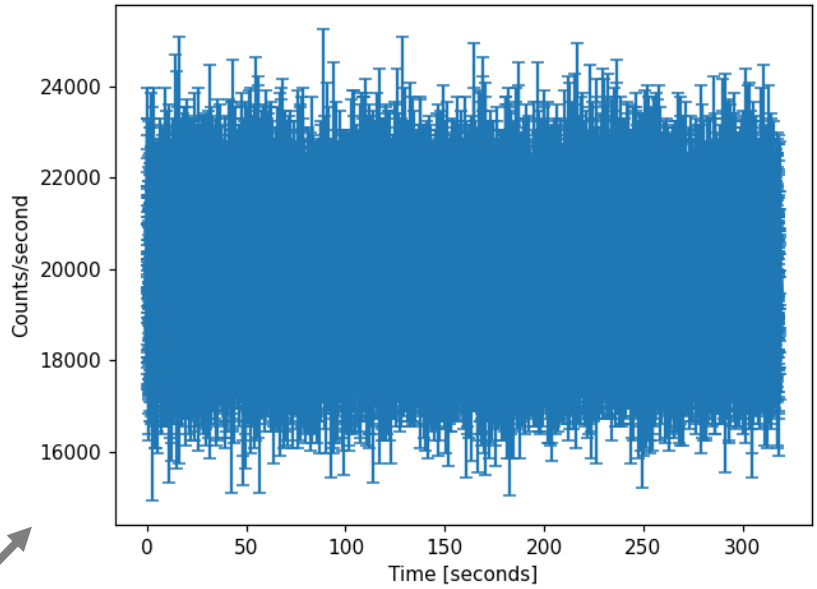
U.S. DEPARTMENT OF ENERGY

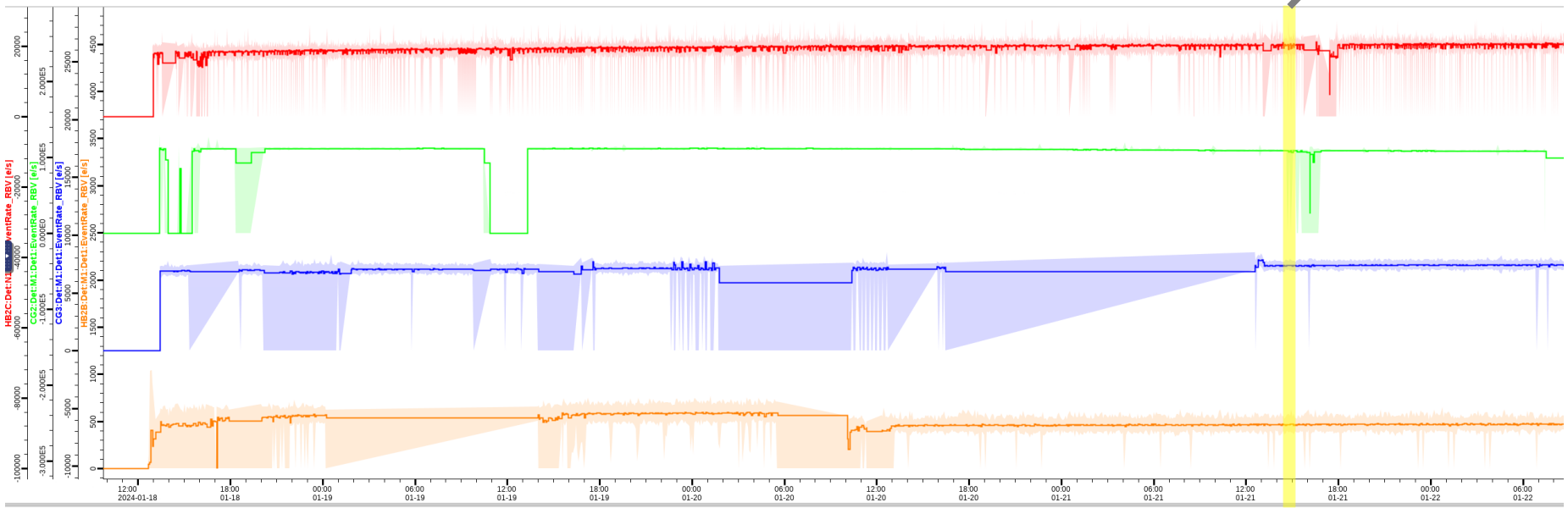
Initial Working Groups

- Beam Intensity
  - Determine the final beam fluence during each configuration with associated errors based on reactor and instrument conditions
- Detector Regions of Interest
  - Determine optimal regions of interest in order to provide a suitable corrected result.
- McStas Simulation
  - Provide a refined instrument simulation suited to answer any questions about spectral beam flux or the instrument configuration
- Landau-Zener Simulation
  - Provide a refined simulation suited to giving a limit on oscillation from our experiment configuration and results.

Beam Intensity

- Reconstruct Beam Intensity from facility info
  - Other Instrument beam monitors
  - Any other HFIR information
  - McStas Simulation

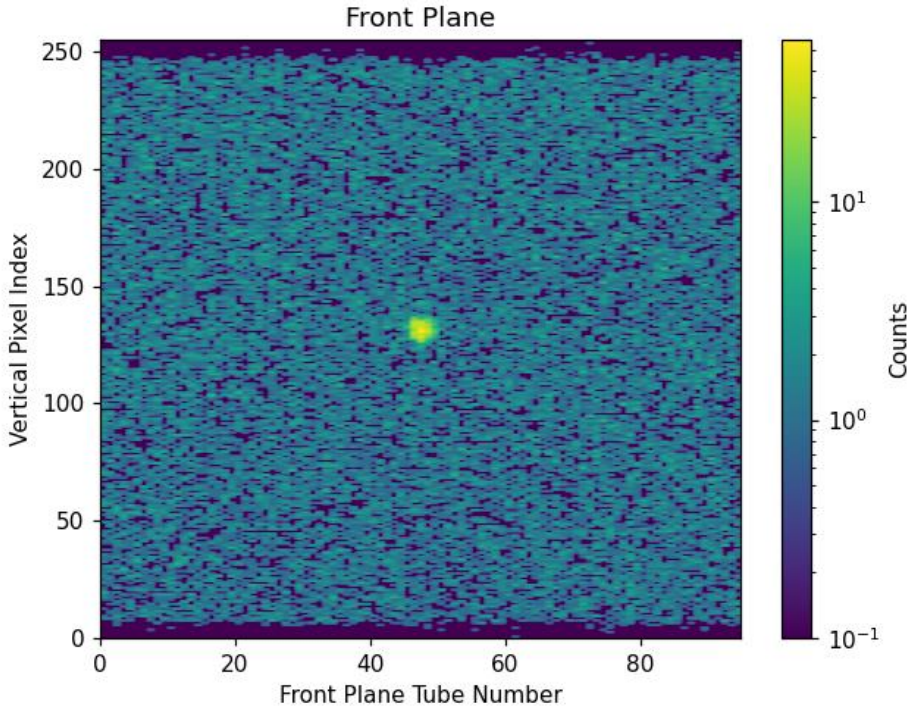


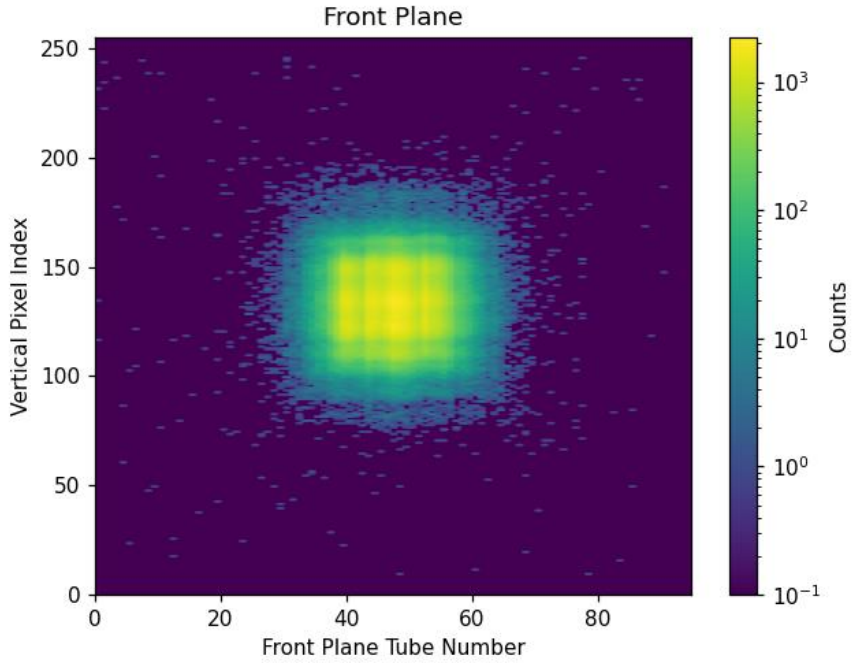


Group Members: MF, YK

Detector Regions of Interest

- Based on experiment data and McStas simulation
  - Determine ROI masks for all data
  - Perform tests on masks with data to optimize statistical effects

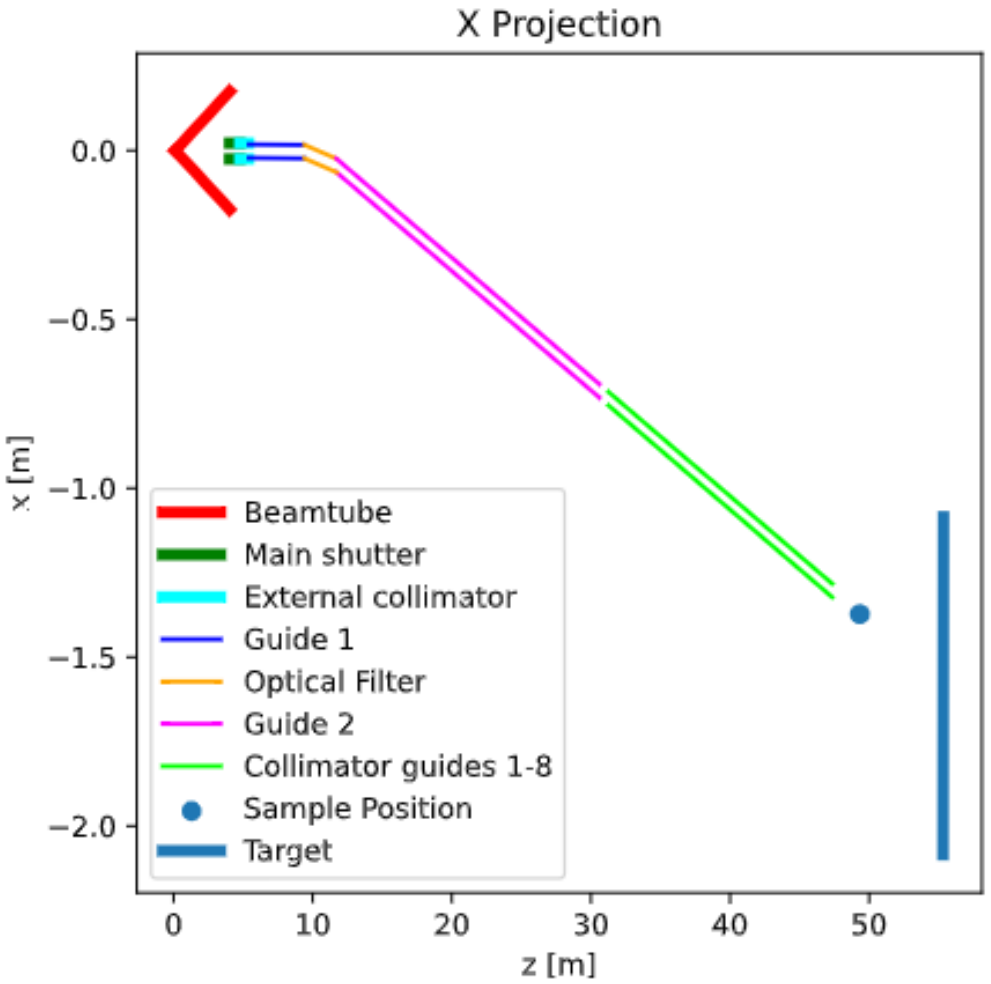




Group Members: MF, LB, JR, YK

McStas Simulation

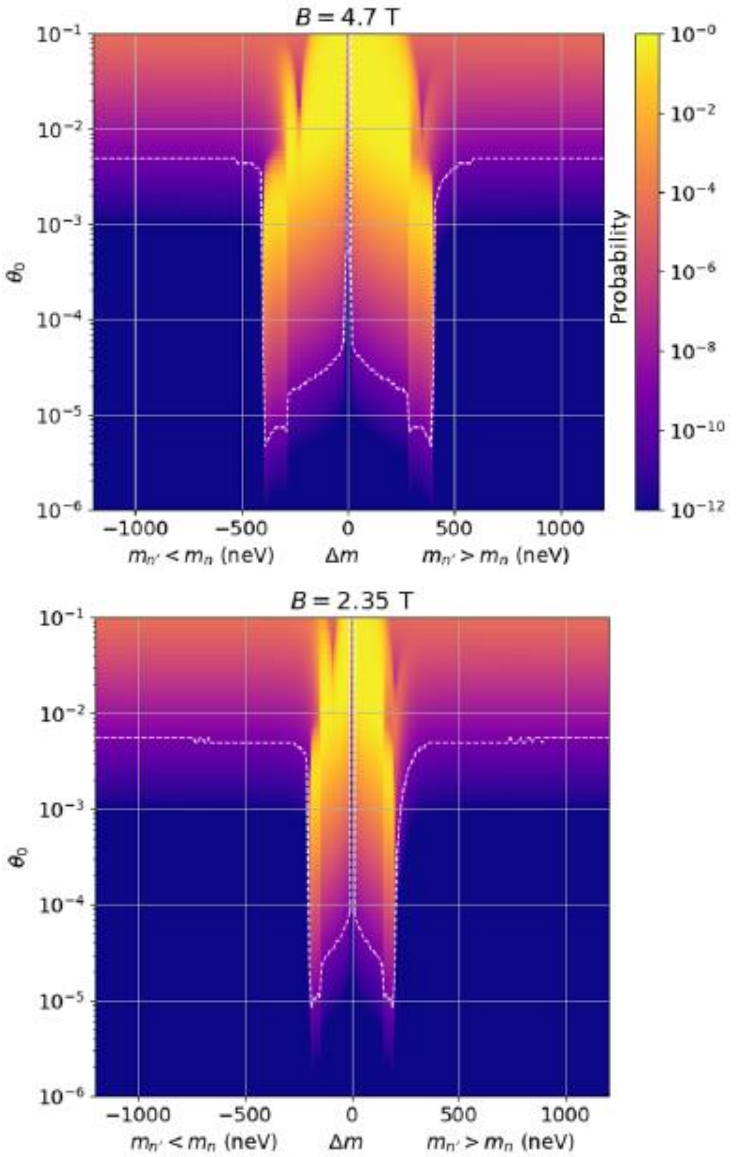
- Provide guidance as needed for Detector ROI and Intensity
- Understand configuration stability impact on experiment



Group Members: MF, JR, YK

Landau-Zener Simulation

- Understand limits based on known configuration
- Develop any enhancements based new information
  - Theory, Experiment configuration, McStas conclusions
- As a final input to result, clarify value added by workflow of other groups



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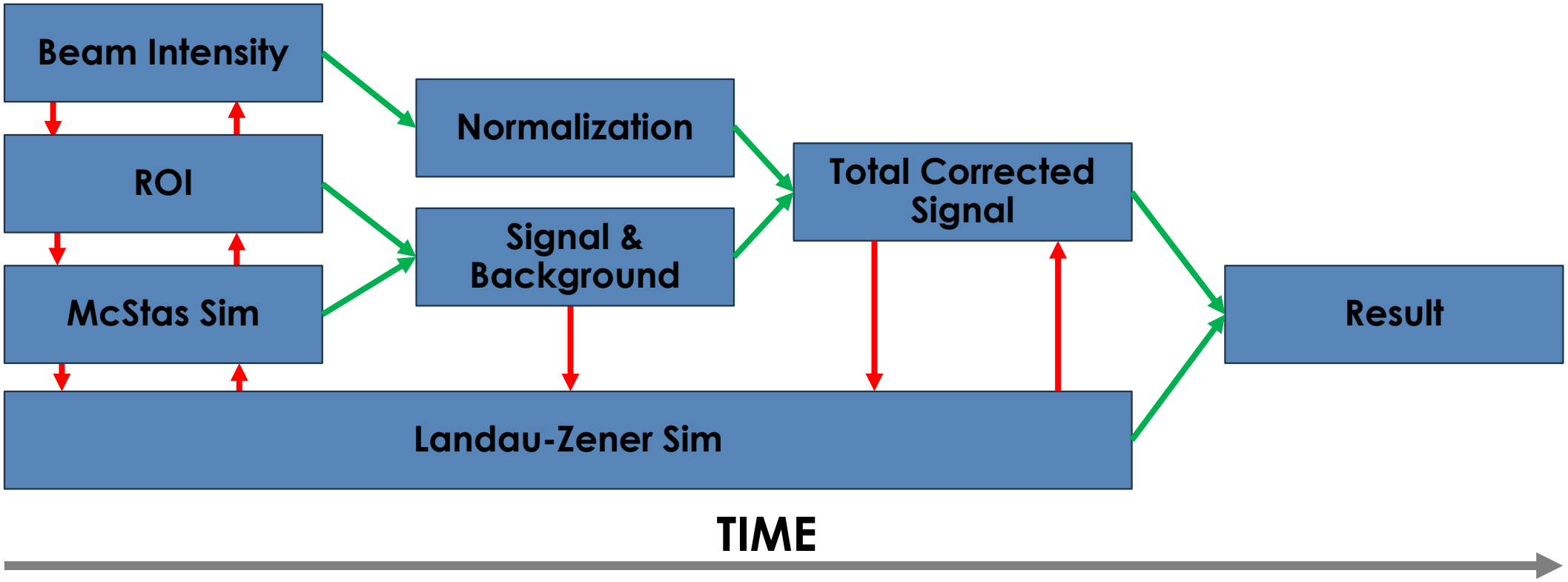
Anticipated Working Group Evolution



(or other forward progressing measurable abstraction)

Email sent from mirrorneutrons@ornl.gov on Jan 24

- ***Please reply to me with that email if you are interested in being a member of any of the working groups.***
  - I don't like to voluntell* people, but I was recently asked to be more delegative in my collaboration style…
- Kick off meetings will begin the week of February 12.

- **Questions?**

**voluntell (v): to ask a peer to do a task in a way that suggests the asker knew that the peer was going to volunteer to do the task anyways. p.t. : voluntold; pr. p. voluntelling*