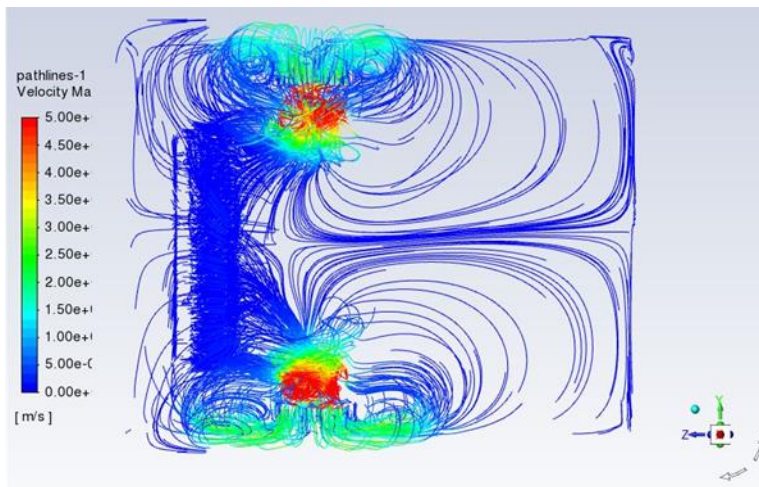


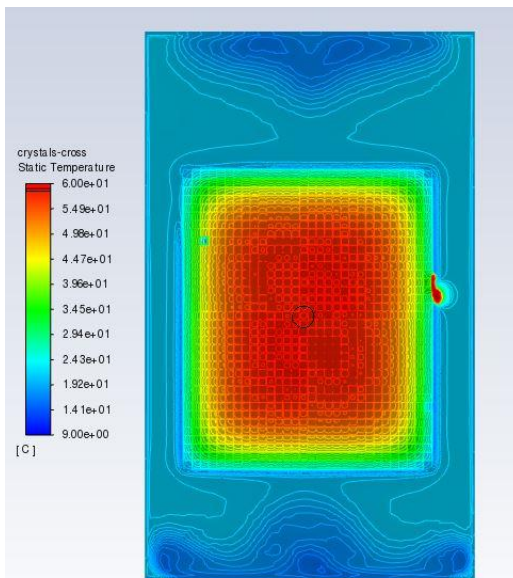
Hall C – NPS

Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, Mindy Leffel, and Marc McMullen

- Working on code to automatically disable interlock and averaging if a sensor is disabled
- Fixed problem of overlapping parts in Ansys model using SpaceClaim’s Interference tool, which detects and fixes interfering bodies
 - ★ Only able to mesh the crystals in small chunks, and not mesh the dividers or copper shell
- Ansys Fluent thermal analysis
 - ★ Ran thermal simulation in steady state mode; took ~25 hrs. to complete 1000 iterations



Right side view of velocity pathlines for YZ plane



Back view of the temperature contour plot of YX cross-section at the rear face of crystals; red spot next to the crystal array has a temperature >900°C

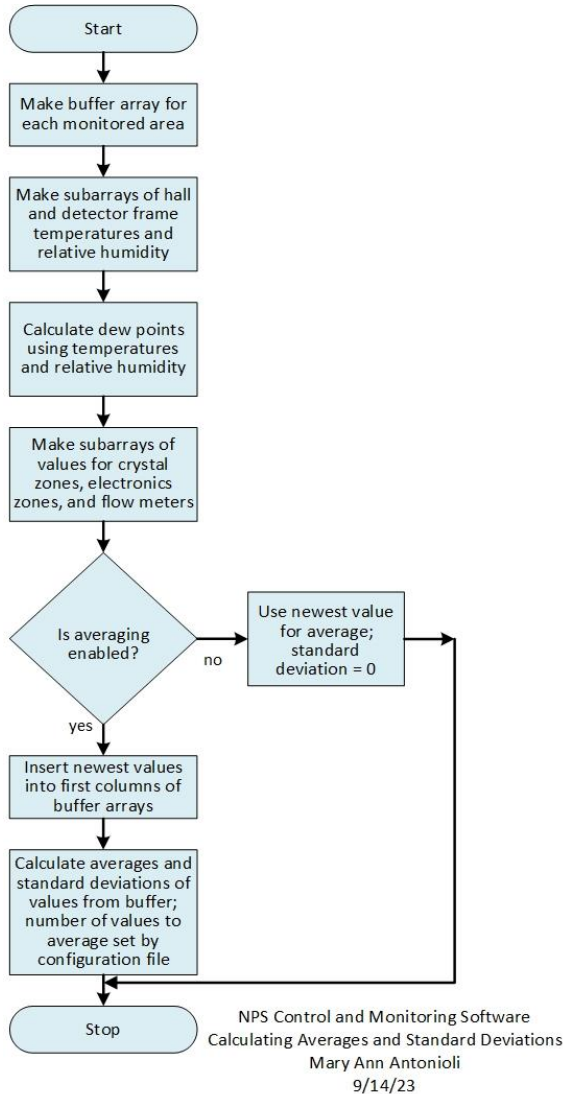


Detector Support Group

We choose to do these things "not because they are easy, but because they are hard".

Weekly Report, 2023-09-20

- ★ Ran simulation for 500 iterations, with same configurations, resulting in same high temperature spots
 - Contacted Ansys technical support; made recommended changes in setup
- ★ Started third simulation, with 1000 iterations
- Made three Visio flowcharts for parts of LabVIEW code; flowchart for calculating averages and standard deviations shown below



EIC

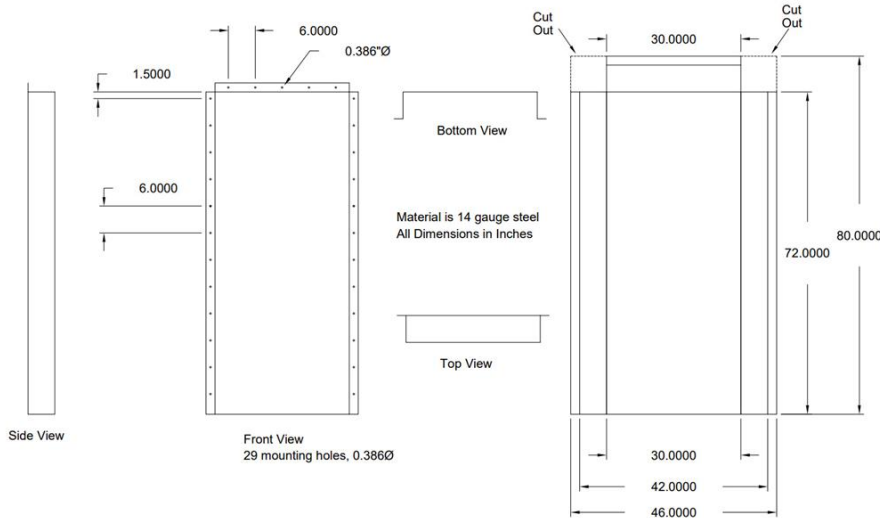
Brian Eng, George Jacobs

- Met with micro-pattern gaseous detector (MPGD) experts to review current designs for uRWELL tracker (a type of MPGD), mainly focusing on the outer barrel
- Exploring sourcing rare gases (Xenon, Krypton) for MPGD from three vendors

EIC - DIRC

Peter Bonneau, Mindy Leffel, George Jacobs, Tyler Lemon, and Marc McMullen

- Created AutoCAD design for air intake cover to block external light from entering laser controlled area
 - ★ 14-gauge steel sheet with thickness of 0.0747"; large enough for two intake filters (if needed)



- Converted AutoCAD diagram of air inlet filter cover into NX12 to create a 3D model and sheet metal plan
 - ★ Sheet metal plan includes cutting dimensions, bend location markings, and through-hole dimensions that will be used for fabrication
- Started assembly of interior control unit
 - ★ Cut holes in bottom of box for two DB25 connectors
- Researched laser-safe curtain options for sub-room entry way to temporarily cover exit light during tests
- Reviewed design and began procurement of the revised interlock PCB
- Ran Phoebus alarm test for interlock
 - ★ Debugging Phoebus core programs

EIC - Thermal Test Stand

Pablo Campero, Brian Eng, George Jacobs, and Marc McMullen

- Reconnected RTDs to the cRIO RTD module
 - ★ Verified RTD locations and software mapping
- Started ramp-up to 100°C on the beampipe with 500 L/m airflow
- Wrote ePas – JLab-RRD-726

DSG

Mary Ann Antonioli, Peter Bonneau, Aaron Brown

- Changed titles of notes and talks on website to include complete name of detector and its acronym
- Revised website photolog