



# DSG-NPS Collaborators' Meeting Update

Aaron Brown and the  
Detector Support Group  
February 3, 2022

# Contents

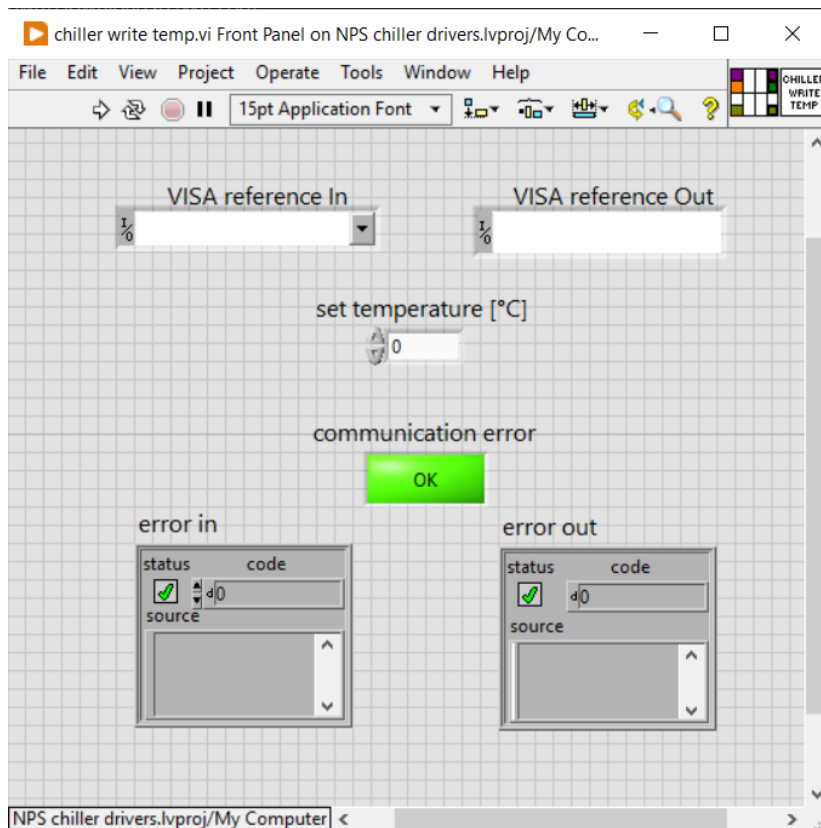
- Chiller Communication
  - LabVIEW Device Driver Library
- Hardware Monitoring Program
- Conclusion

# Chiller Communication

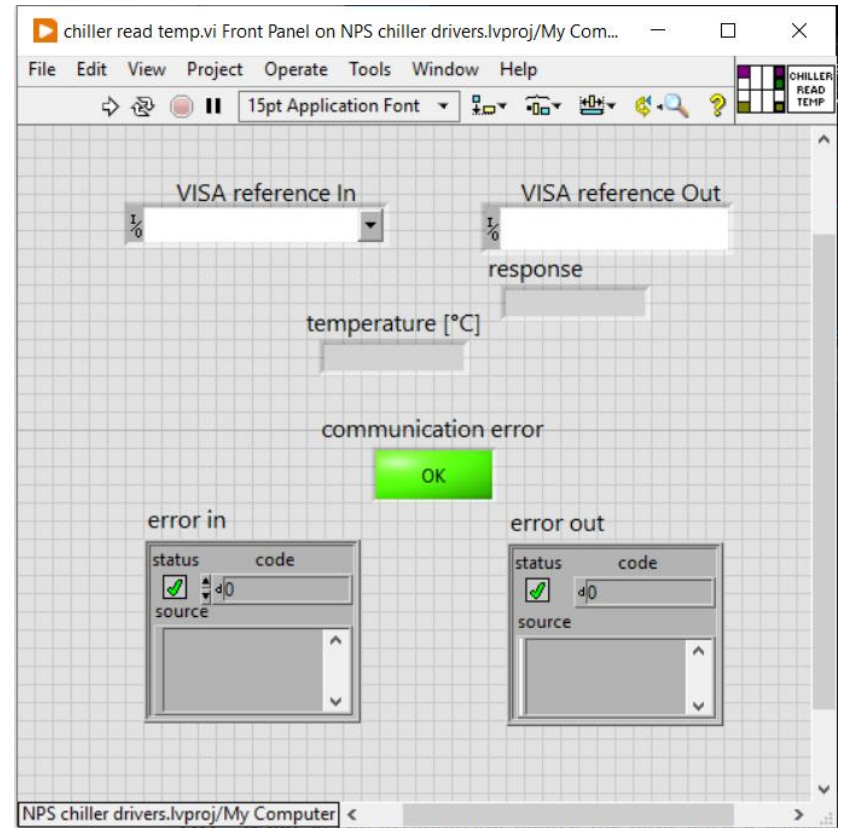
- RS232 chiller commands
  - Read hall temperature
  - Set offset calibration
  - Set over temperature limit
  - Set low temperature limit
  - Set chiller control temperature
  - Read chiller status
  - Read setpoint temperature
  - Set user control flags
- Developing LabVIEW device driver library for these commands
- Pressure, flow, and outlet temperature readout handled with vortex flow meters



# Device Driver Library Development



Set chiller temp. subVI

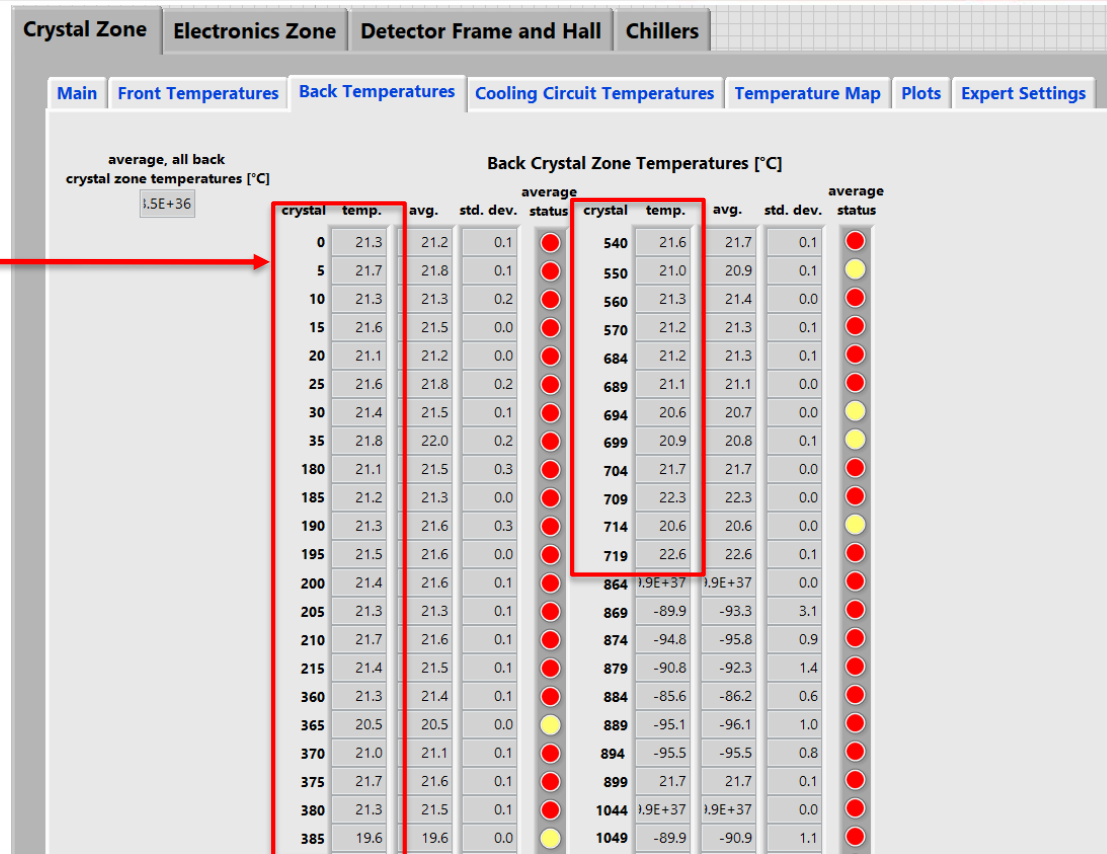


Read chiller temp. subVI

- Developing LabVIEW subVIs to communicate with chillers via RS232

# LabVIEW Hardware Monitoring Program

Temperature values from thermocouples installed in DSG control room



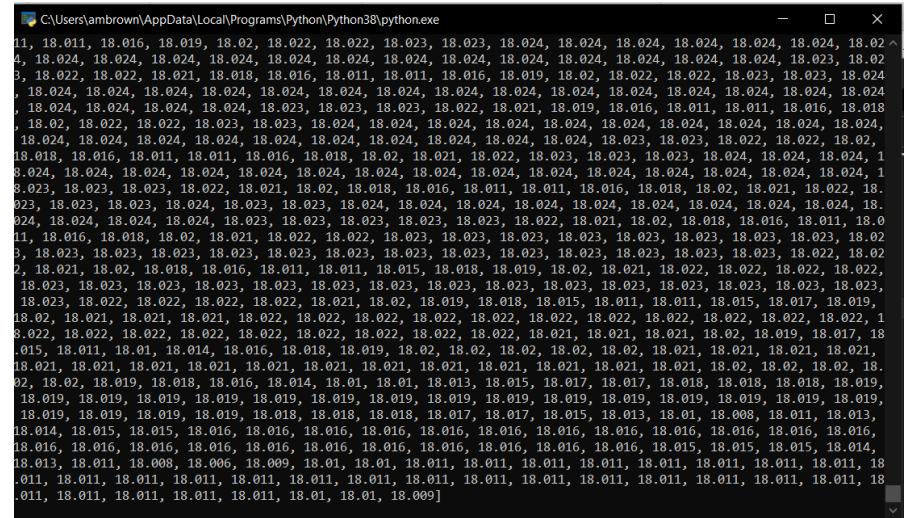
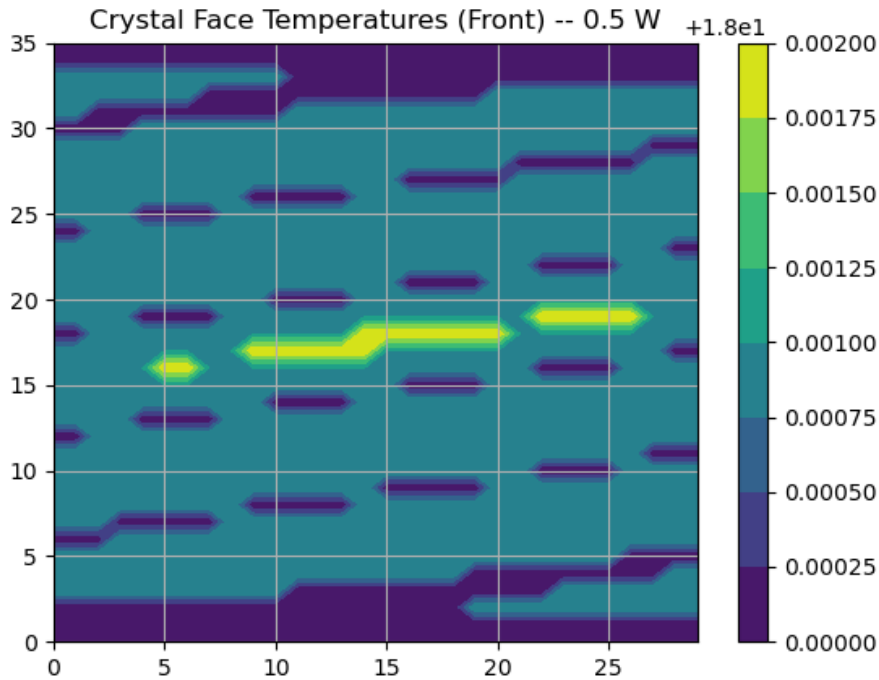
- Runs in parallel with LabVIEW Hardware Interlock program
- Uses shared network variables from *Keysight Scanning* Hardware Interlock LabVIEW subroutine

# Conclusion

- Developing subVIs to communicate with chillers via RS232
- Hardware monitoring LabVIEW program development complete

**THANK YOU**

# Ansys Thermal Analysis



- Temperature probes added to front and rear faces of each crystal (2160 temperature values)
- Preliminary contour plots generated for front and rear faces