



DSG NPS Status Update

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Detector Support Group
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Thermal Readback

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EPICS alarm border

Back Crystal Zone Temperatures [°C]

Monitoring					
Crystal	T [°C]	Avg [°C]	σ [°C]	Intlk status	Latch status
0	16.26	16.26	0.00		
5	10.01	10.01	0.00		
10	11.00	11.00	0.00		
15	17.44	17.44	0.00		
20	18.02	18.02	0.00		
25	19.15	19.15	0.00		
30	11.98	11.98	0.00		
35	17.70	17.70	0.00		
180	11.54	11.54	0.00		
185	20.62	20.62	0.00		
190	10.26	10.26	0.00		
195	18.77	18.77	0.00		
200	14.86	14.86	0.00		
205	13.98	13.98	0.00		
210	21.01	21.01	0.00		
215	17.73	17.73	0.00		
360	20.42	20.42	0.00		
365	12.37	12.37	0.00		
370	17.34	17.34	0.00		
375	19.90	19.90	0.00		
380	11.36	11.36	0.00		
385	10.28	10.28	0.00		
390	22.77	22.77	0.00		
395	22.78	22.78	0.00		
509	10.83	10.83	0.00		
519	21.70	21.70	0.00		
529	19.75	19.75	0.00		
539	13.50	13.50	0.00		

Control																	
Crystal	Alarm limit [°C]		Sensor enable	Avg enable	# of pts. to avg	Intlk enable	Trip delay enable	Trip delay time [s]									
	low	high							Crystal	Alarm limit [°C]	Sensor enable	Avg enable	# of pts. to avg	Intlk enable	Trip delay enable	Trip delay time [s]	
0	0	22	Off	Off	0	Off	Off	0	540	0	22	Off	Off	0	Off	Off	0
5	0	22	Off	Off	0	Off	Off	0	550	0	22	Off	Off	0	Off	Off	0
10	0	22	Off	Off	0	Off	Off	0	560	0	22	Off	Off	0	Off	Off	0
15	0	22	Off	Off	0	Off	Off	0	570	0	22	Off	Off	0	Off	Off	0
20	0	22	Off	Off	0	Off	Off	0	684	0	22	Off	Off	0	Off	Off	0
25	0	22	Off	Off	0	Off	Off	0	689	0	22	Off	Off	0	Off	Off	0
30	0	22	Off	Off	0	Off	Off	0	694	0	22	Off	Off	0	Off	Off	0
35	0	22	Off	Off	0	Off	Off	0	699	0	22	Off	Off	0	Off	Off	0
180	0	22	Off	Off	0	Off	Off	0	704	0	22	Off	Off	0	Off	Off	0
185	0	22	Off	Off	0	Off	Off	0	709	0	22	Off	Off	0	Off	Off	0
190	0	22	Off	Off	0	Off	Off	0	714	0	22	Off	Off	0	Off	Off	0
195	0	22	Off	Off	0	Off	Off	0	719	0	22	Off	Off	0	Off	Off	0
200	0	22	Off	Off	0	Off	Off	0	864	0	22	Off	Off	0	Off	Off	0
205	0	22	Off	Off	0	Off	Off	0	869	0	22	Off	Off	0	Off	Off	0
210	0	22	Off	Off	0	Off	Off	0	874	0	22	Off	Off	0	Off	Off	0
215	0	22	Off	Off	0	Off	Off	0	879	0	22	Off	Off	0	Off	Off	0
360	0	22	Off	Off	0	Off	Off	0	884	0	22	Off	Off	0	Off	Off	0
365	0	22	Off	Off	0	Off	Off	0	889	0	22	Off	Off	0	Off	Off	0
370	0	22	Off	Off	0	Off	Off	0	894	0	22	Off	Off	0	Off	Off	0
375	0	22	Off	Off	0	Off	Off	0	899	0	22	Off	Off	0	Off	Off	0
380	0	22	Off	Off	0	Off	Off	0	1044	0	22	Off	Off	0	Off	Off	0
385	0	22	Off	Off	0	Off	Off	0	1049	0	22	Off	Off	0	Off	Off	0
390	0	22	Off	Off	0	Off	Off	0	1054	0	22	Off	Off	0	Off	Off	0
395	0	22	Off	Off	0	Off	Off	0	1059	0	22	Off	Off	0	Off	Off	0
509	0	22	Off	Off	0	Off	Off	0	1064	0	22	Off	Off	0	Off	Off	0
519	0	22	Off	Off	0	Off	Off	0	1069	0	22	Off	Off	0	Off	Off	0
529	0	22	Off	Off	0	Off	Off	0	1074	0	22	Off	Off	0	Off	Off	0
539	0	22	Off	Off	0	Off	Off	0	1079	0	22	Off	Off	0	Off	Off	0

- LabVIEW program is being redone to move from arrays to individual PVs
- LabVIEW program is now an EPICS client – a softIOC has been developed to host all NPS PVs
- Phoebus screens have been changed include controls and monitoring on one screen for each region



High Voltage Control & Monitoring

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Power

STATUS

Trip Restore

Set max. voltage [V]

Readback max. voltage [V]

Set voltage [V]

Readback voltage [V]

Set current limit [uA]

Readback current [uA]

Set Ramp Up Rate [V/s]

Readback Ramp Up

Set Ramp Down Rate [V/s]

Readback Ramp Down

Temperature Error

Power Fail

Over Voltage Protection

Under Current

Unplugged

Calibration Error

Internal Trip

External Disable

Over HV Max

External Trip

Under Voltage

Over Voltage

Over Current

Ramp Down

Ramp Up

Pw

- Added the ability to set and monitor additional parameters and status bits for each channel

CAEN Issues

- Connectors for all 32 A7030TN modules have been potted to prevent unseating of pins
- Still unresolved
 - Randomly changing parameter setpoints
 - Voltage oscillations outside of module specifications
 - Further testing planned

Conclusion

- The entire DSG has been contributing to the NPS project

THANK YOU!