



EPICS for PIP-II

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A Partnership of:

US/DOE

India/DAE

Italy/INFN

UK/UKRI-STFC

France/CEA, CNRS/IN2P3

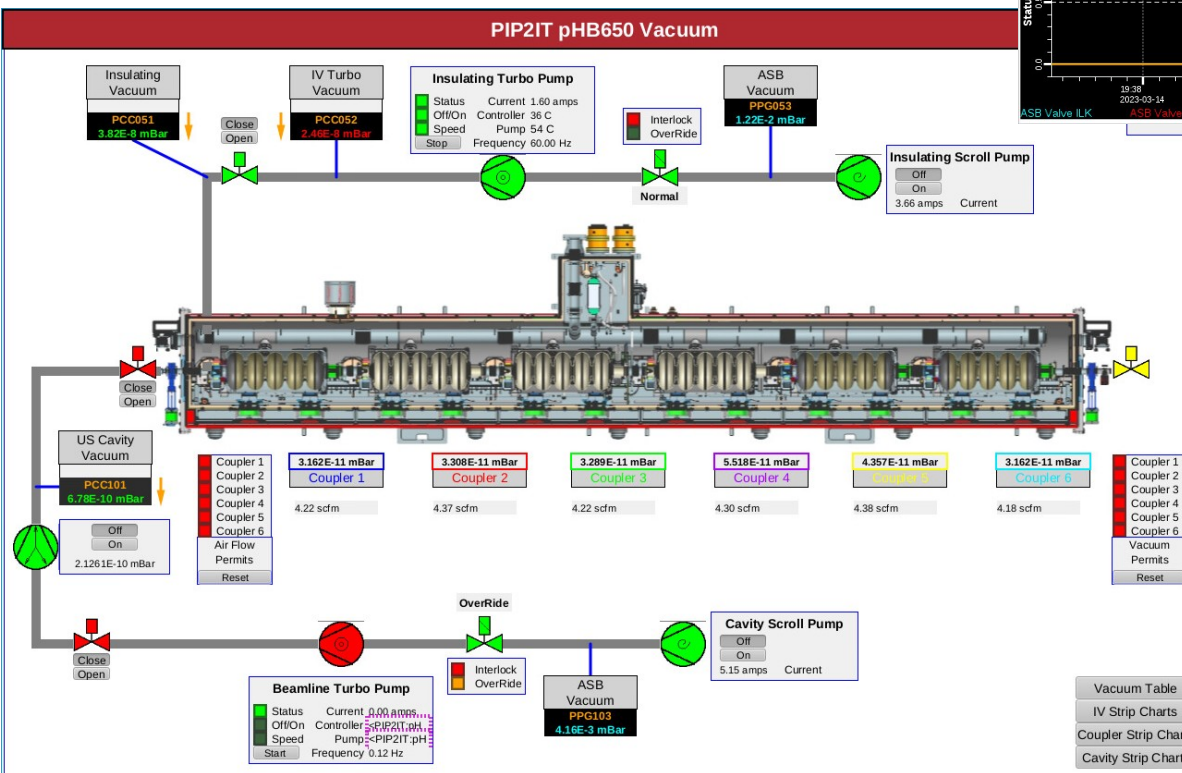
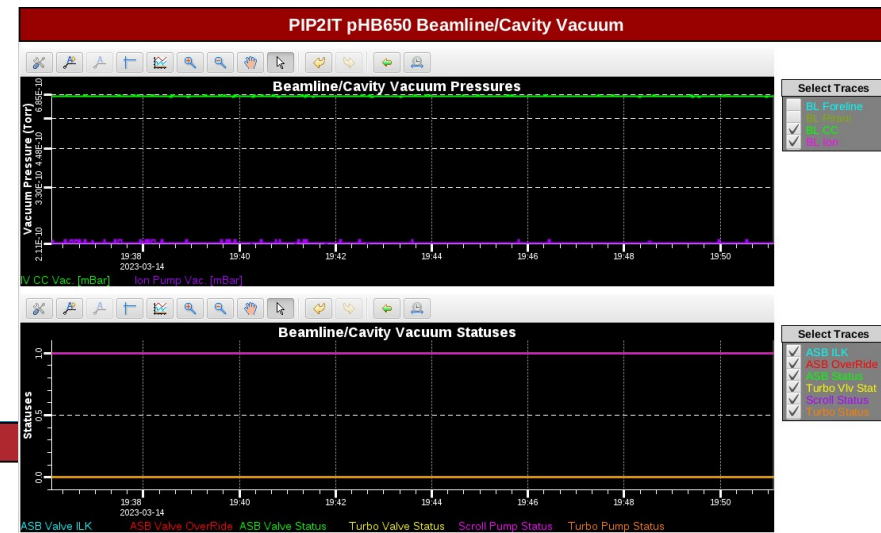
Poland/WUST



EPICS at PIP2IT

- PIP-II will use EPICS as its control system framework
- EPICS framework will be made available throughout AD controls network
- Implement modern computing practices Continuous Integration/Continuous Deployment (CI/CD)
- PIP2IT is the PIP-II Integration Teststand
- Opportunity to develop and vet controls for each cryomodule
- Opportunity to evaluate applications and requirements:
 - Archiver Appliance
 - Alarms
 - Save & Restore
 - Channel Finder
 - E-log integration
- Presently have IOCs and HMIs for:
 - Vacuum
 - Cryogenics
 - LLRF – existing system
 - HPRF – development in progress with Cosylab
 - RFPI

PIP2IT: pHB650 Vacuum



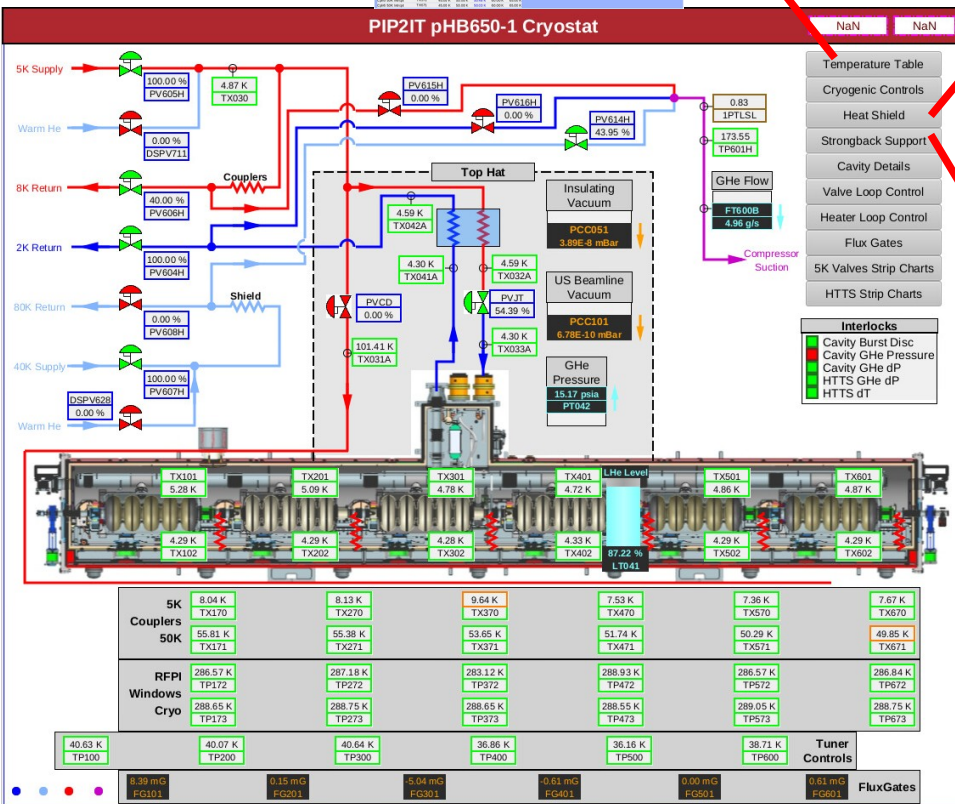
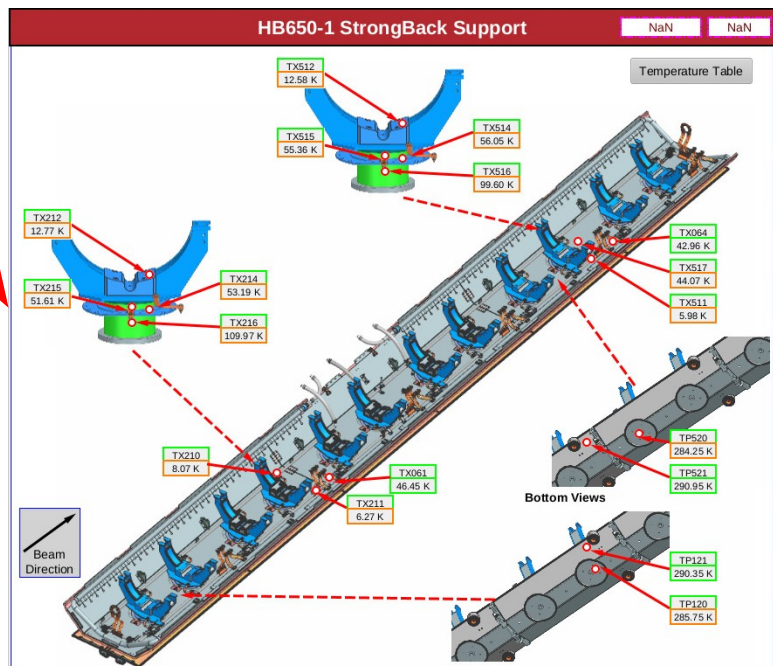
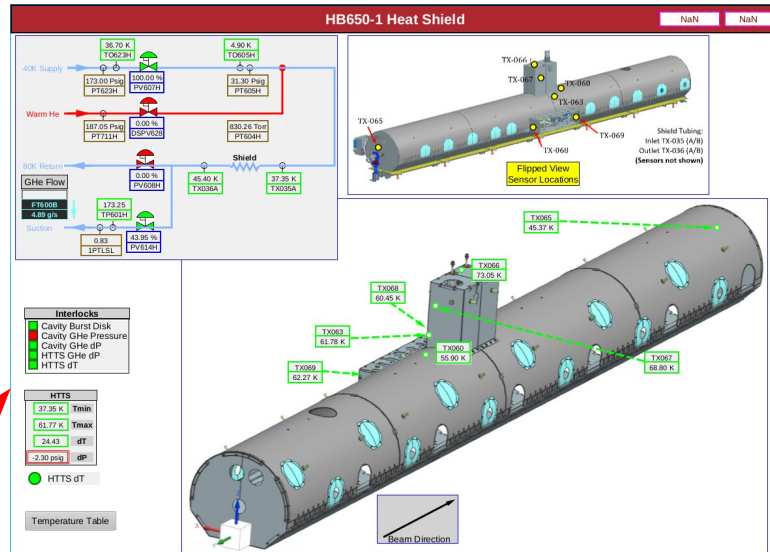
HB650-1 Cryomodule Vacuums

Description		Sensor	Insulating Vacuum		Value	HIGH	HIHI
			LOLO	LOW			
PPG053: VAC-INS A	PPG053	0.00E+0	0.00E+0	1.26E-2 mBar	0.00E+0	0.00E+0	
PPG052: VAC-INS Tu	PPG052	1.00E-12	1.00E-11	3.28E-12 mBar	1.00E+3	1.00E+4	
PCC052: VAC-INS Tu	PCC052	1.00E-12	1.00E-11	2.55E-8 mBar	1.00E+3	1.00E+4	
PPG051: VAC-INS C	PPG051	1.00E-12	1.00E-11	1.68E-3 mBar	1.00E+3	1.00E+4	
PCC051: VAC-INS C	PCC051	1.00E-12	1.00E-11	3.78E-8 mBar	1.00E+3	1.00E+4	

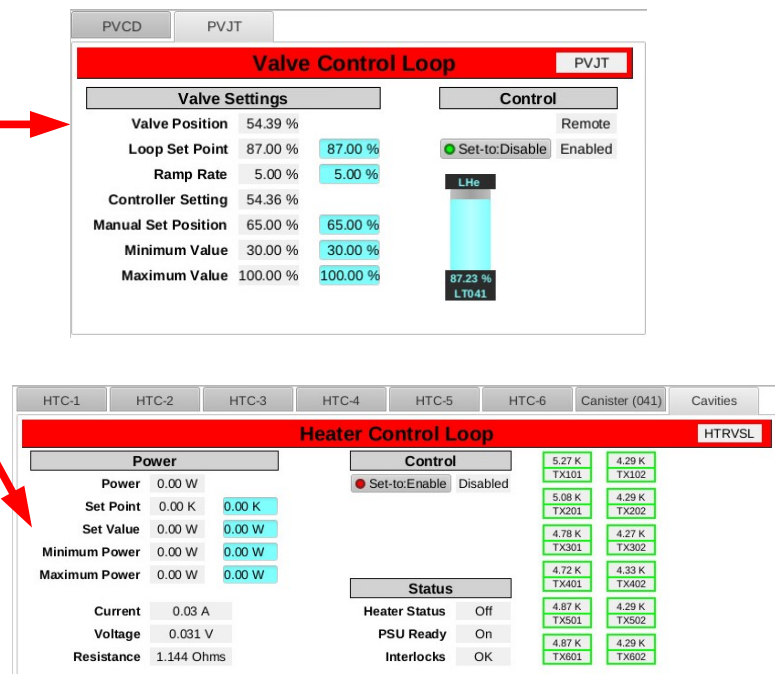
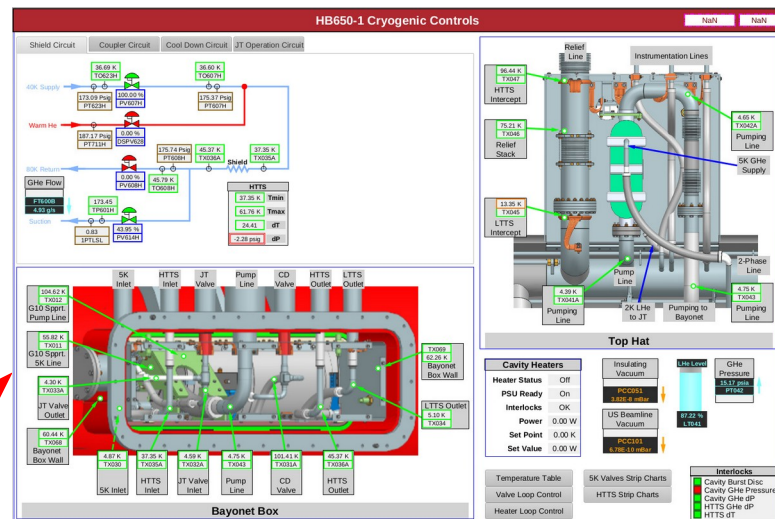
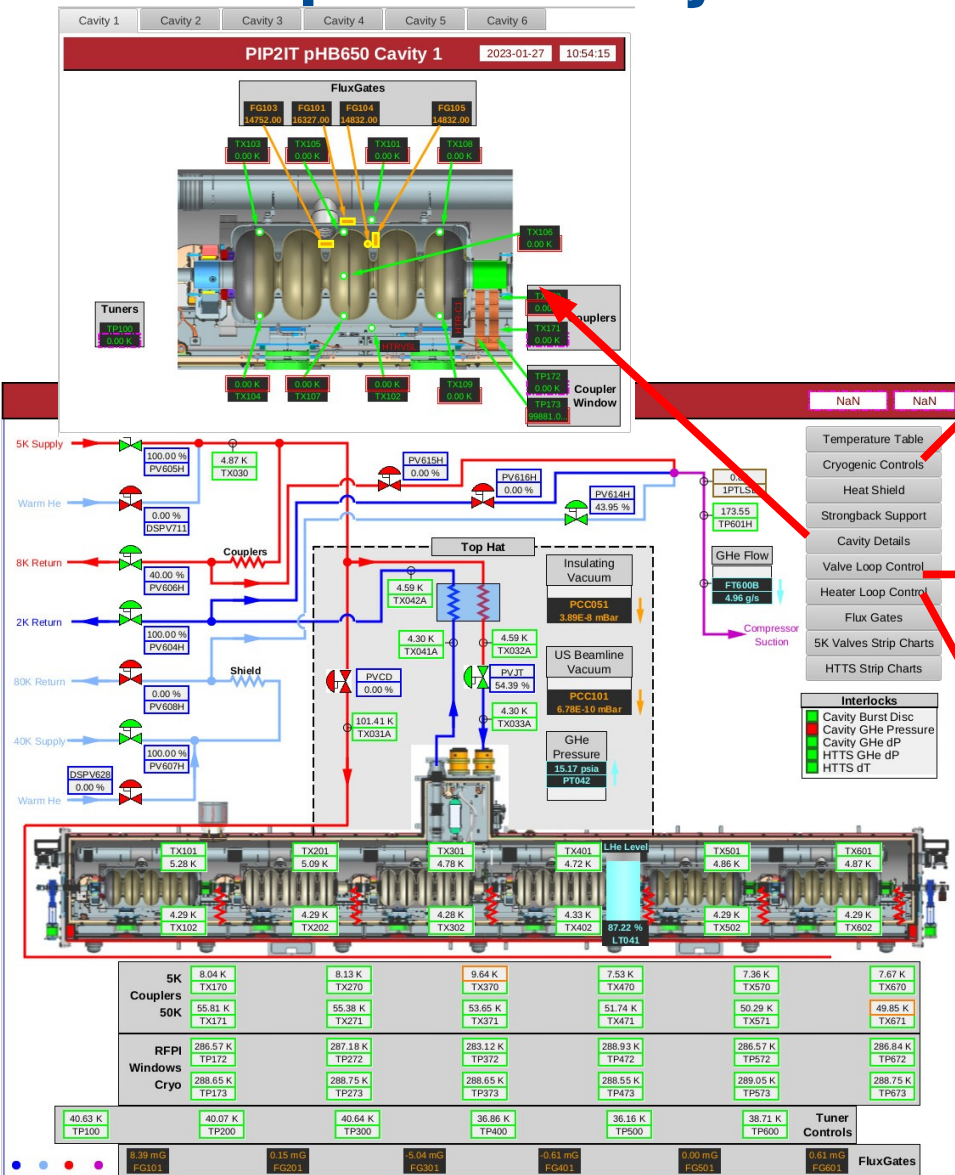
Description		Sensor	Beamline/Cavity Vacuum		Value	HIGH	HIHI
			LOLO	LOW			
PPG103: US VAC-BL	PPG103	0.00E+0	0.00E+0	4.16E-3 mBar	0.00E+0	0.00E+0	
PPG101: US VAC-BL	PPG101	1.00E-12	1.00E-11	3.22E-12 mBar	1.00E+3	1.00E+4	
PCC101: US VAC-BL	PCC101	1.00E-12	1.00E-11	6.78E-10 mBar	1.00E+3	1.00E+4	
PII101: US VAC-BL lo	PII101	1.00E-12	1.00E-11	2.13E-10 mBar	1.00E+3	1.00E+4	

Description		Sensor	Coupler Vacuum		Value	HIGH	HIHI
			LOLO	LOW			
PCC171: VAC-Cplr1	PCC171	1.00E-12	1.00E-11	3.94E-11 mBar	1.00E+3	1.00E+4	
PCC271: VAC-Cplr2	PCC271	1.00E-12	1.00E-11	3.16E-11 mBar	1.00E+3	1.00E+4	
PCC371: VAC-Cplr3	PCC371	1.00E-12	1.00E-11	3.25E-11 mBar	1.00E+3	1.00E+4	
PCC471: VAC-Cplr4	PCC471	1.00E-12	1.00E-11	3.46E-11 mBar	1.00E+3	1.00E+4	
PCC571: VAC-Cplr5	PCC571	1.00E-12	1.00E-11	3.18E-11 mBar	1.00E+3	1.00E+4	
PCC671: VAC-Cplr6	PCC671	1.00E-12	1.00E-11	3.66E-11 mBar	1.00E+3	1.00E+4	

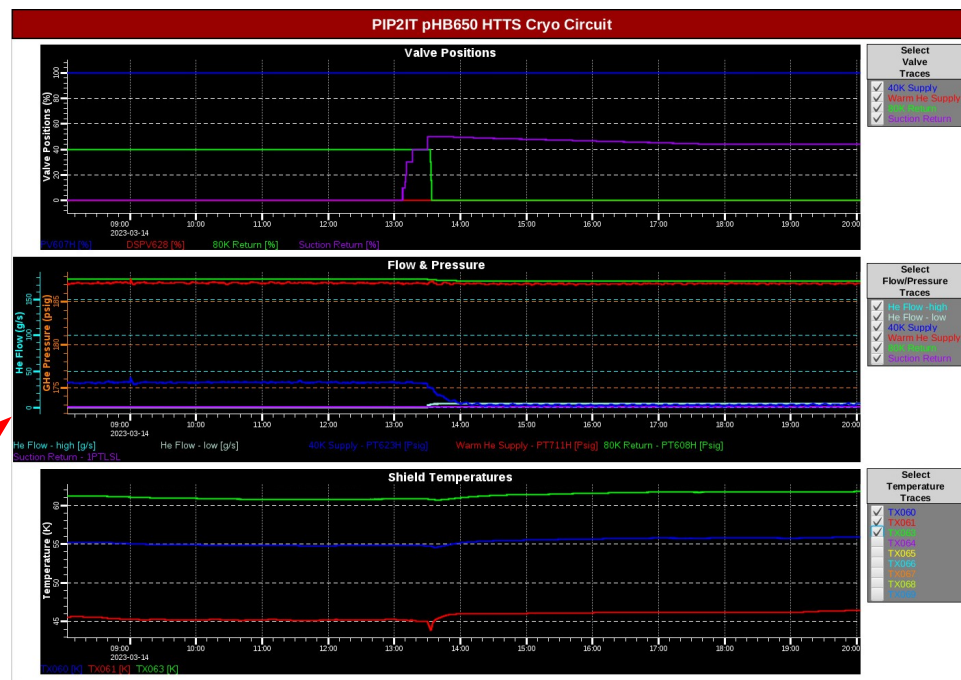
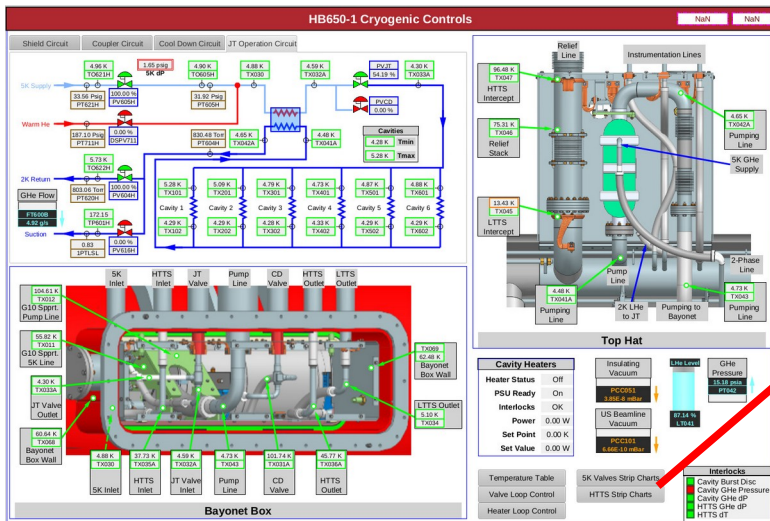
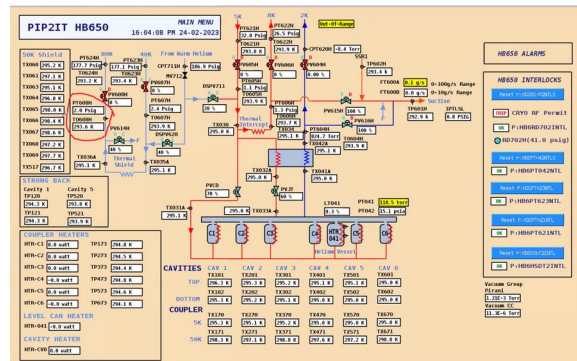
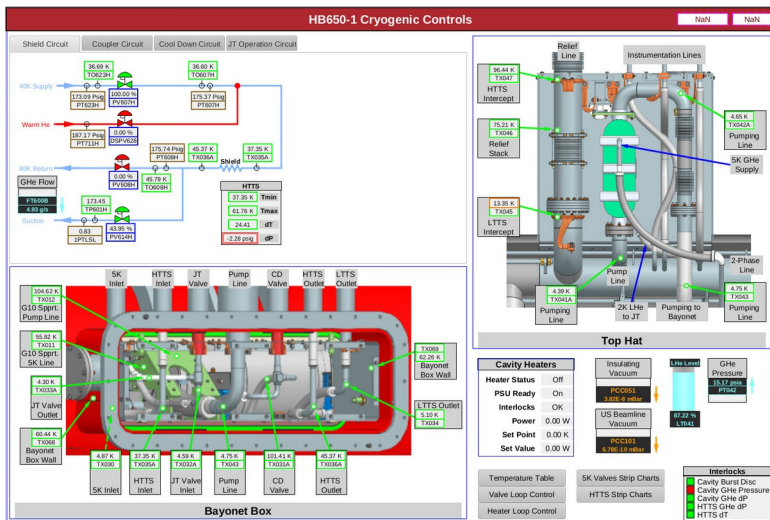
PIP2IT: pHB650 Cryostat



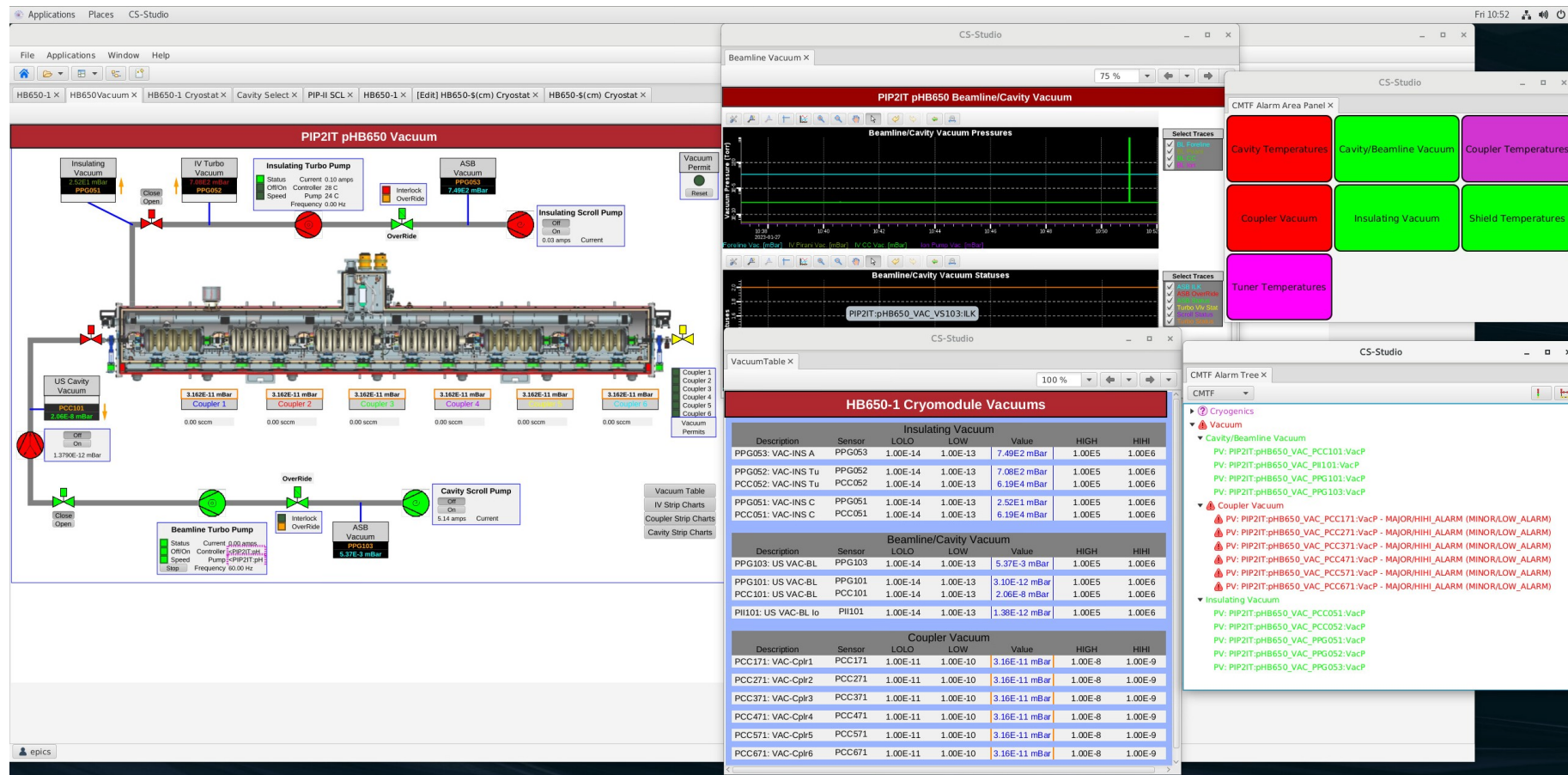
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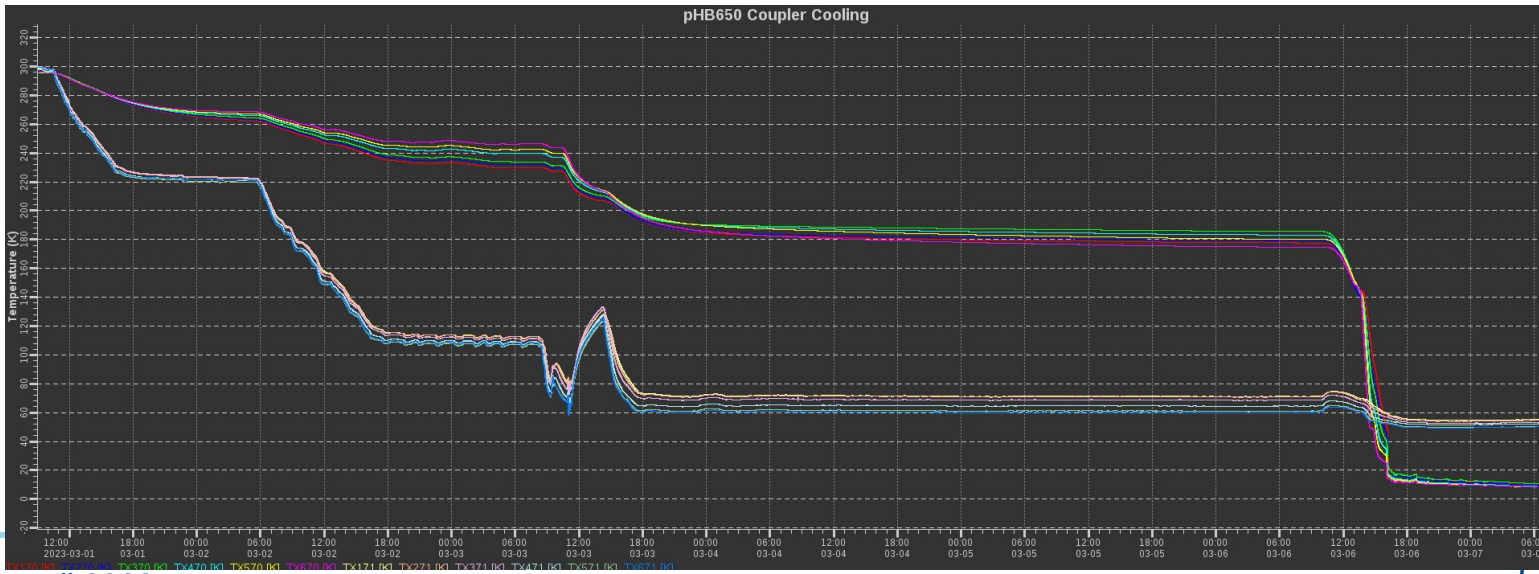
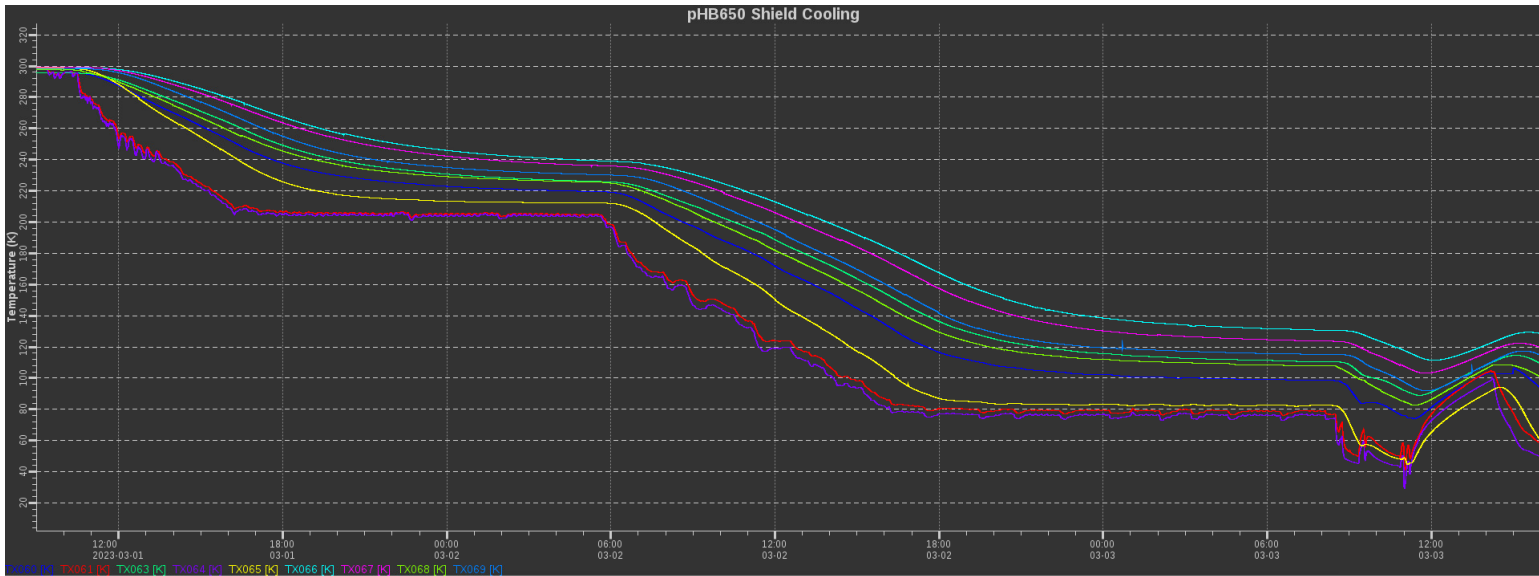
PIP2IT: pHB650 Cryo Control



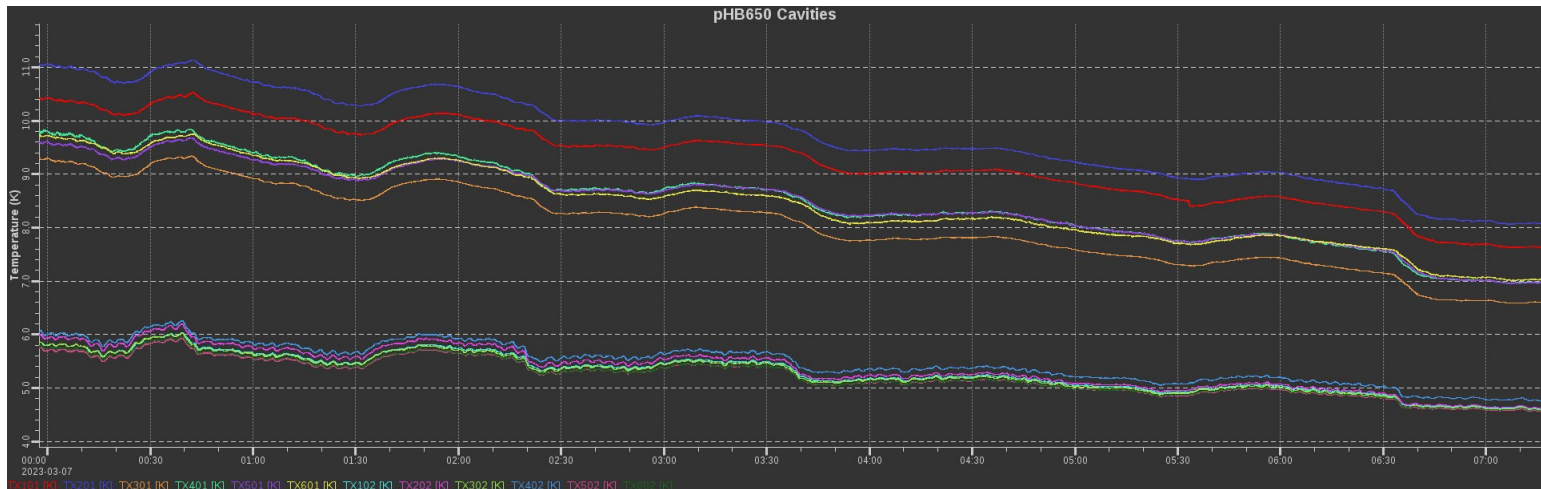
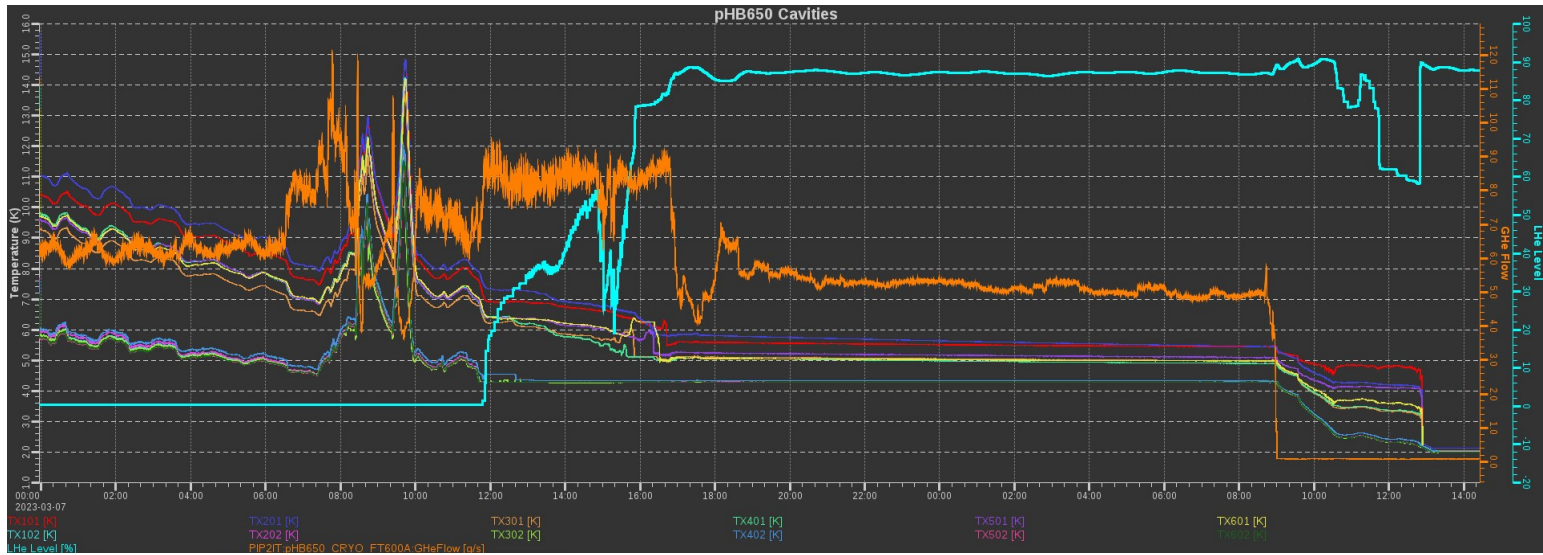
PIP2IT: pHB650 Working Desktop



pHB650 thermal shield cool down and coupler cool down



pHB650 cavity cool down to 2K



Strip tool

