BM@N Slow Control System during the run9

16th Collaboration Meeting of the BM@N Experiment at NICA

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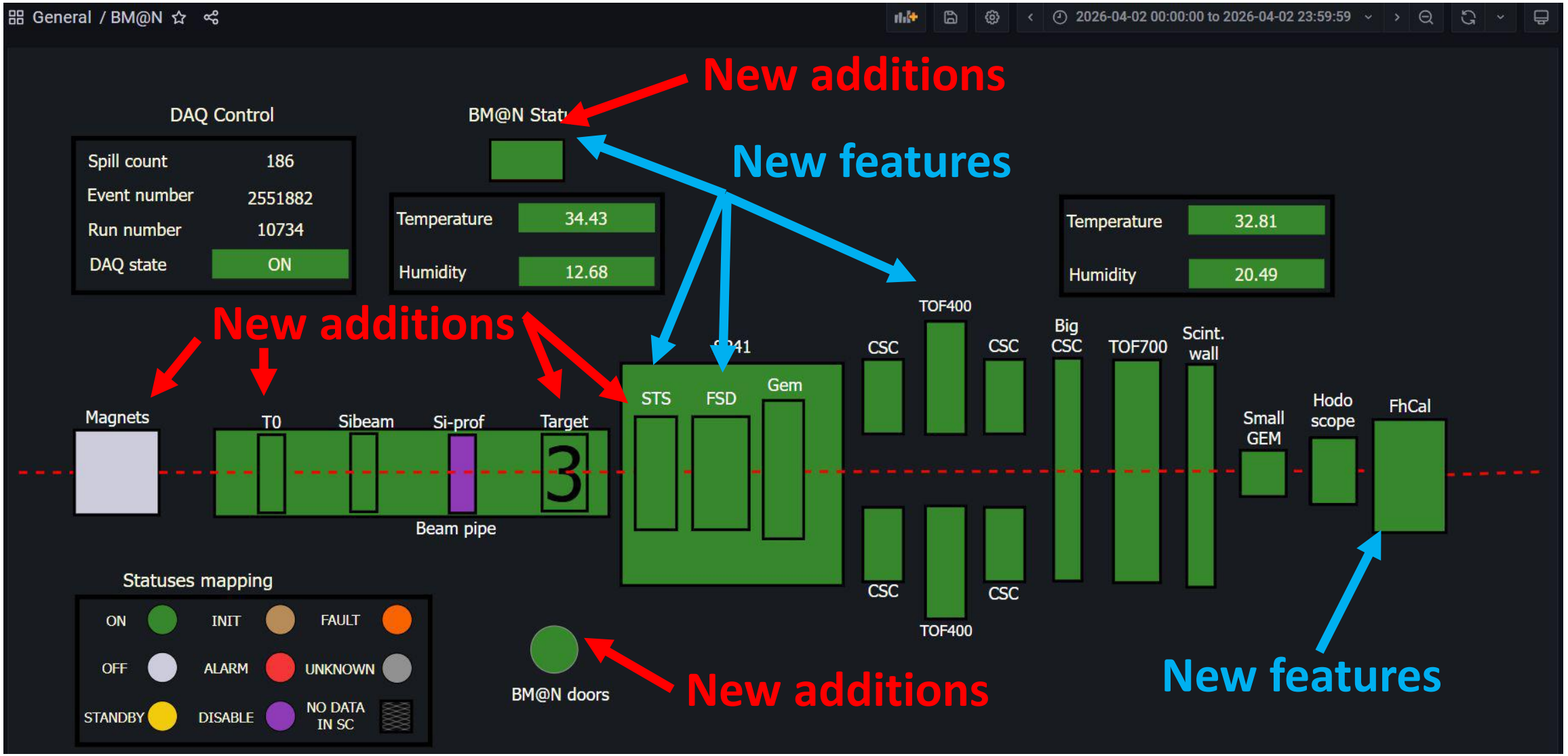
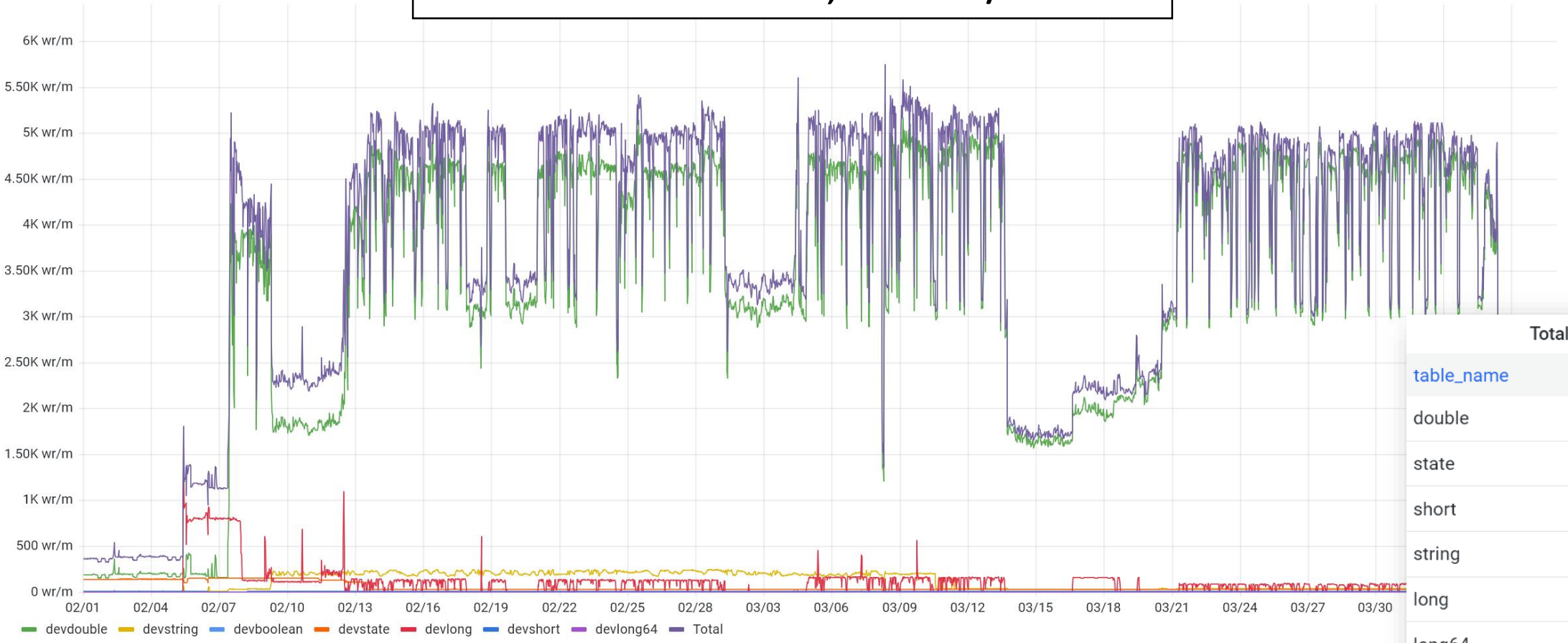
Updating BM@N SCS run9



BM@N detectors dashboard

RUN9 BMN HDB

HDB insert rate, writes/min



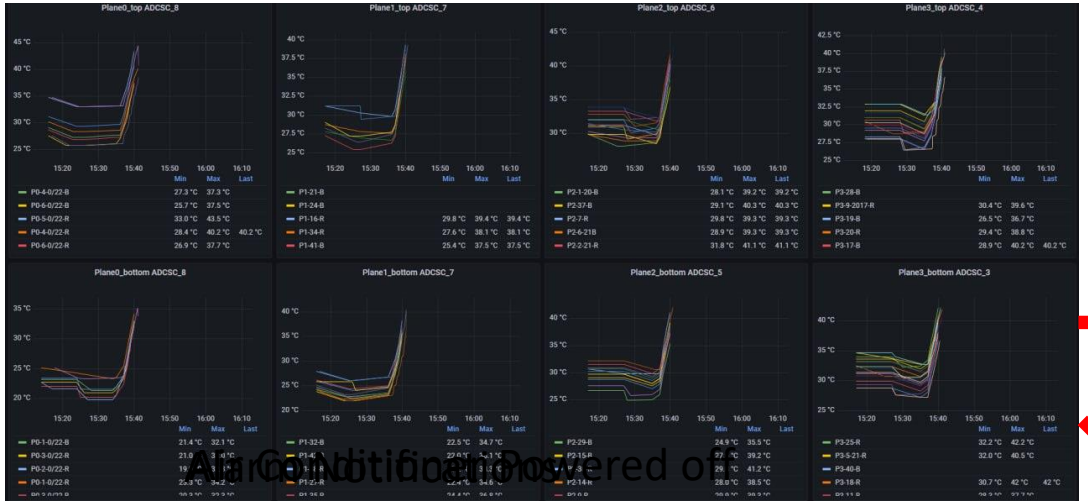
Total lines stored

table_name	count
double	304,438,598
state	5,096,948
short	1,039,902
string	10,518,117
long	10,226,232
long64	10,000
bool	359,826
Total	331,689,623

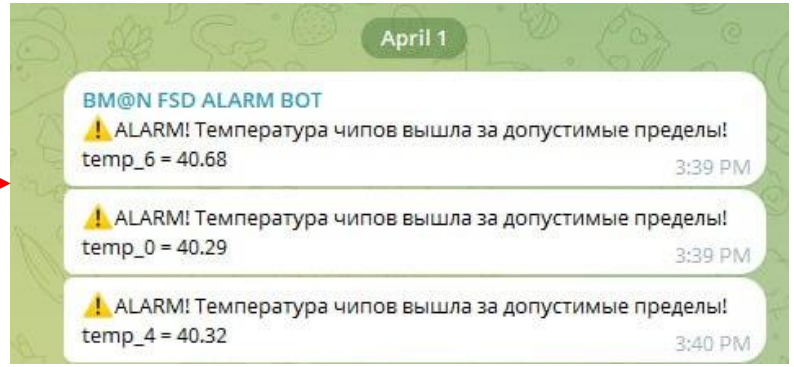
>330 million lines saved to the HDB during the Run9 (including valid values and errors).

FSD SCS

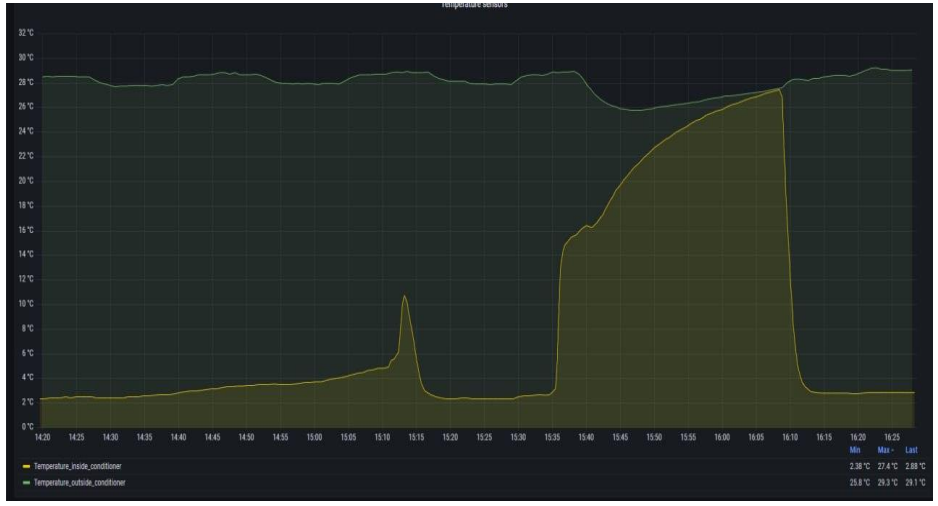
FSD electronics overheating



Alarm notifications



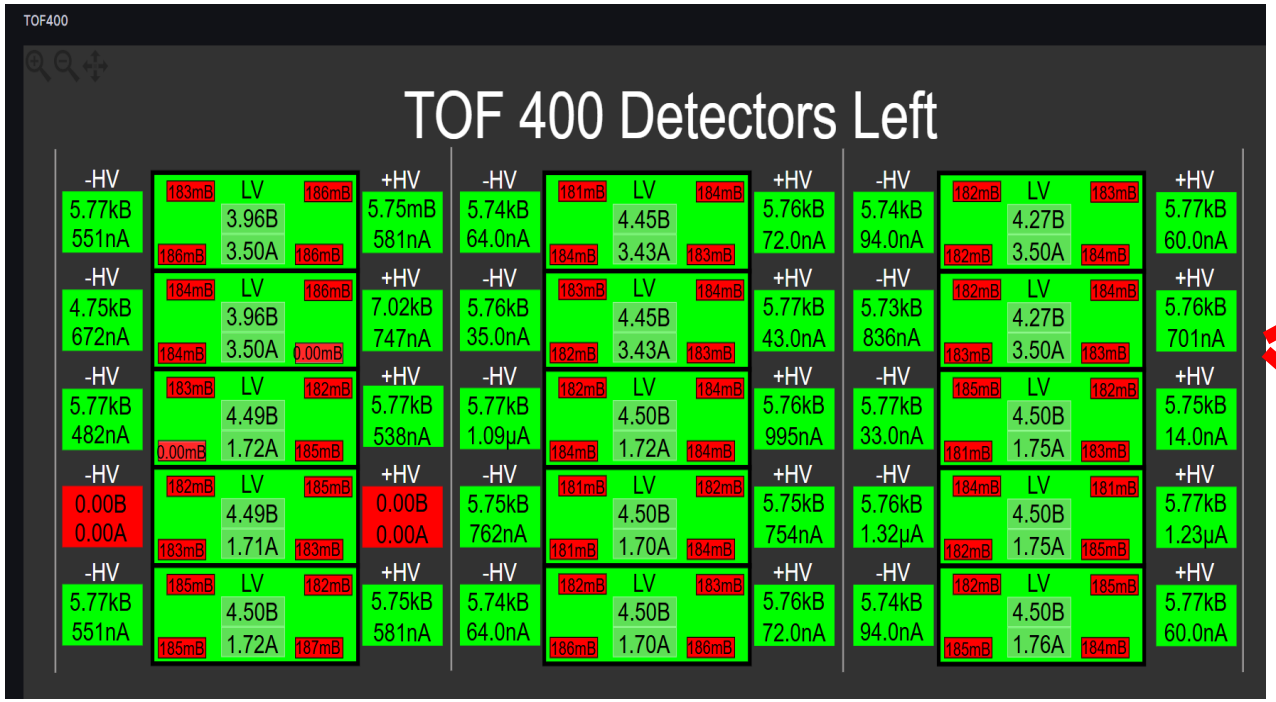
Air Conditioner powered off



LV automatic shutdown



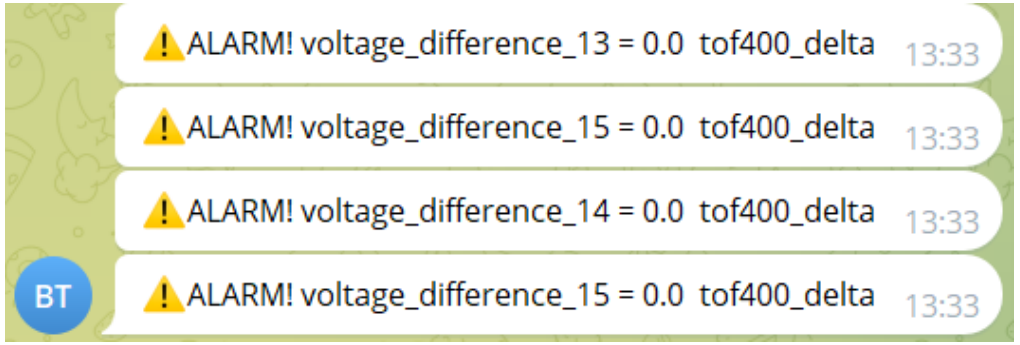
TOF400/700 SCS



HV overcurrent



HV automatic shutdown



Alarm notifications

HV, LV, FEE and Gas systems are has been tested according to the new run9 detector configration.

TOF400



x20 Preamps per each detector

electrical interference

RS - 485



TCP/IP

Socket

Device Server

Properties
Attributes
Commands

HDB

Grafana

Spill Control

ZMQ

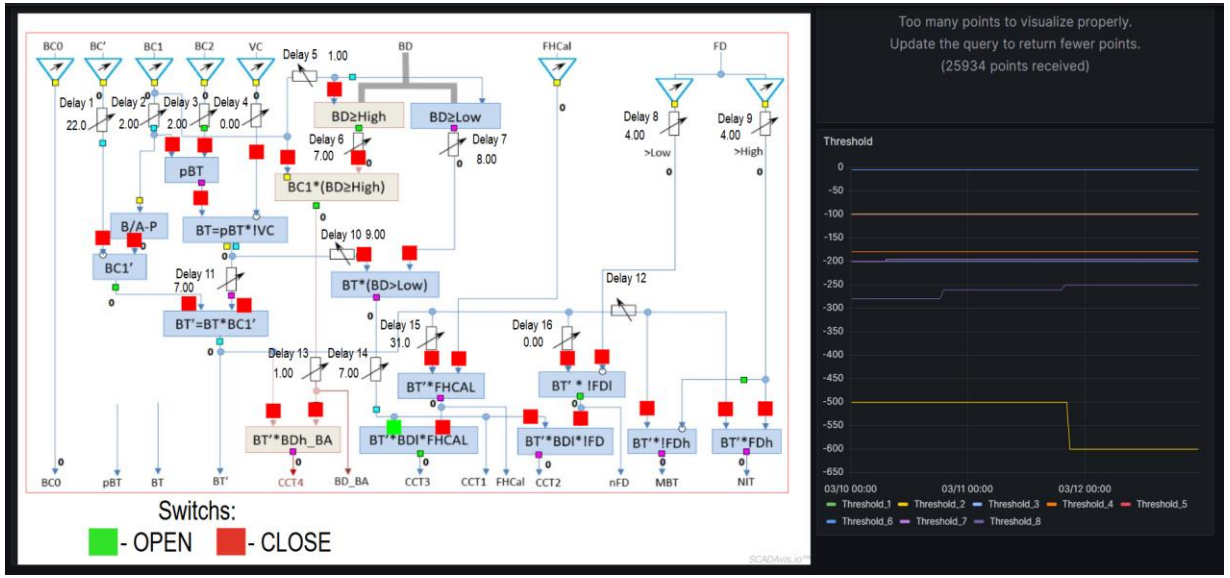
DAQ

TOF400 Detectors

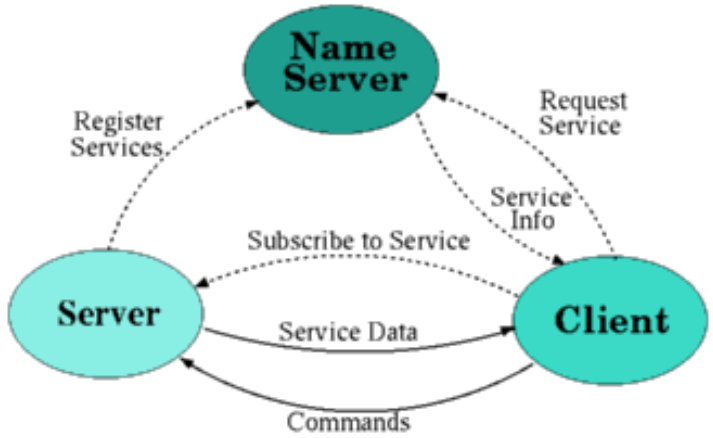
Due to the topological feature of the preamplifier's PCB, electrical interference affects the signal lines when SC read temperatures. This is not the most common case, but for better operation, it is necessary to match the TOF400 slow control with the spill time of the beam from the DAQ.

T0 DSC implementation in SCS

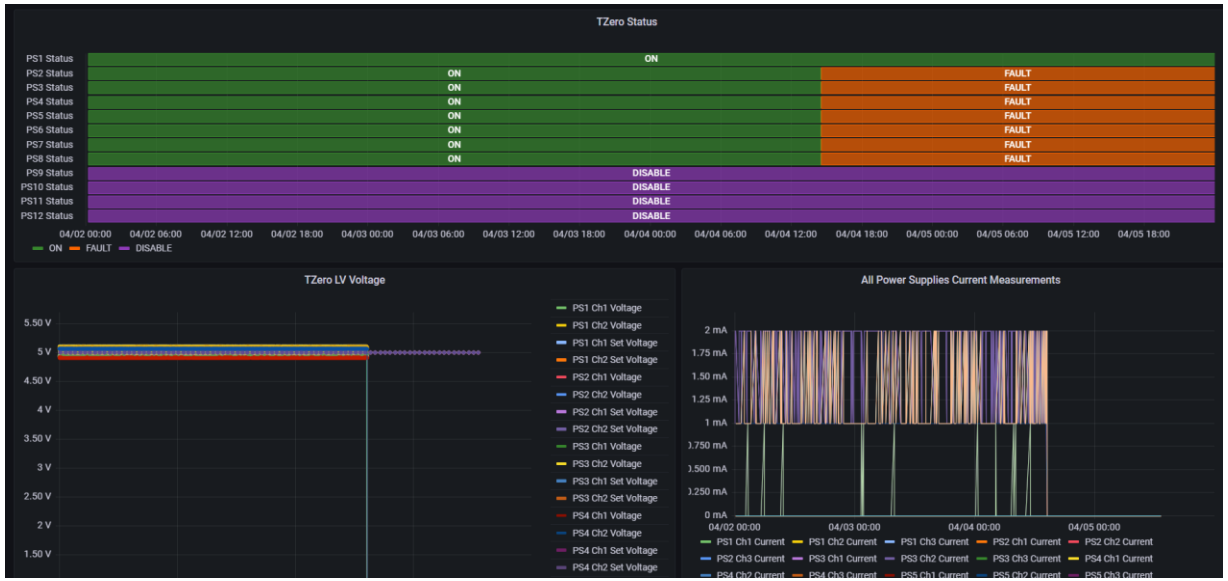




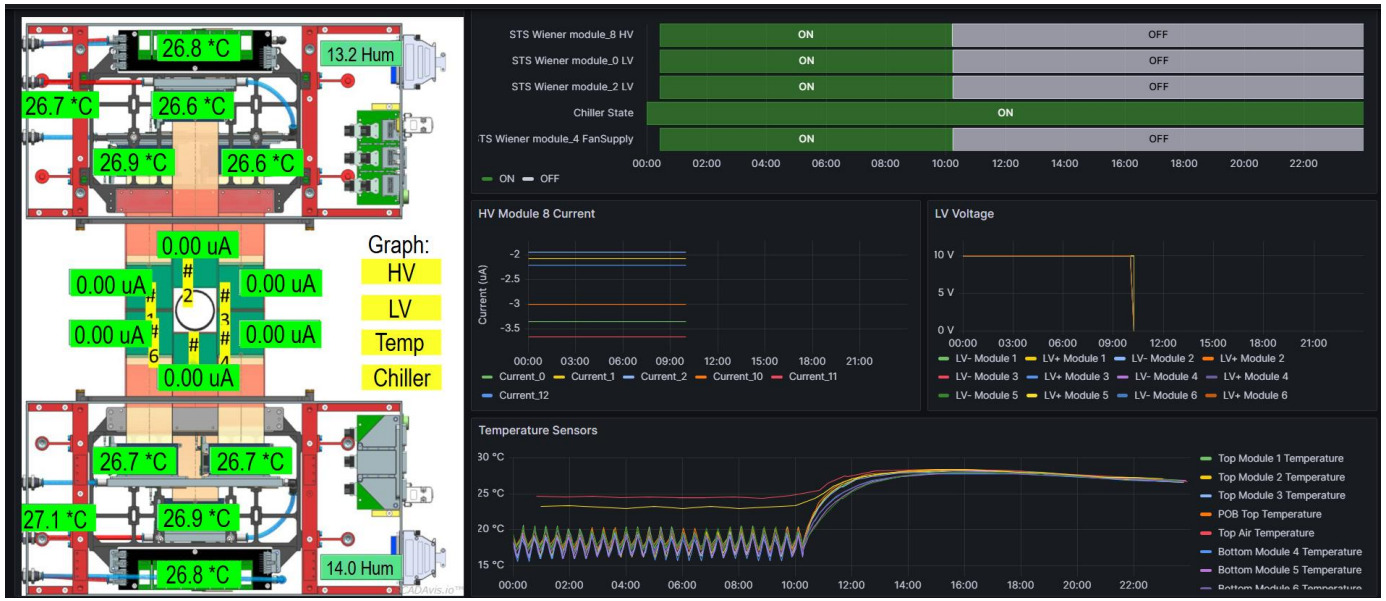
Monitoring dashboards



DIM Structure



Other features in SCS

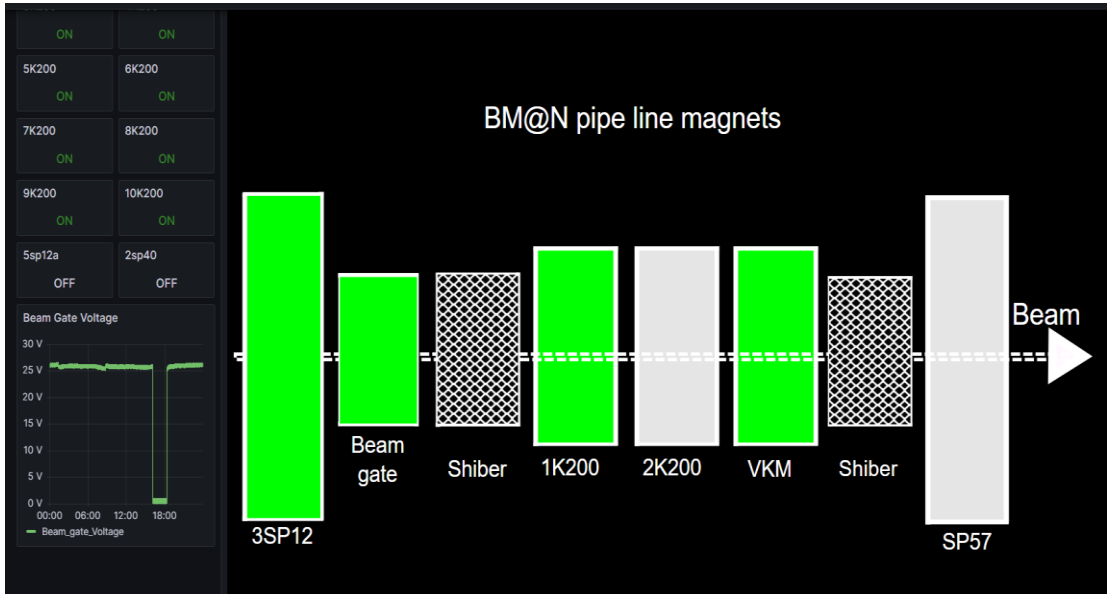


STS dashboard

Also there was a large number of other changes have been made to run9, which were discussed at previous collaboration meetings.



BM@N rad protection doors monitoring

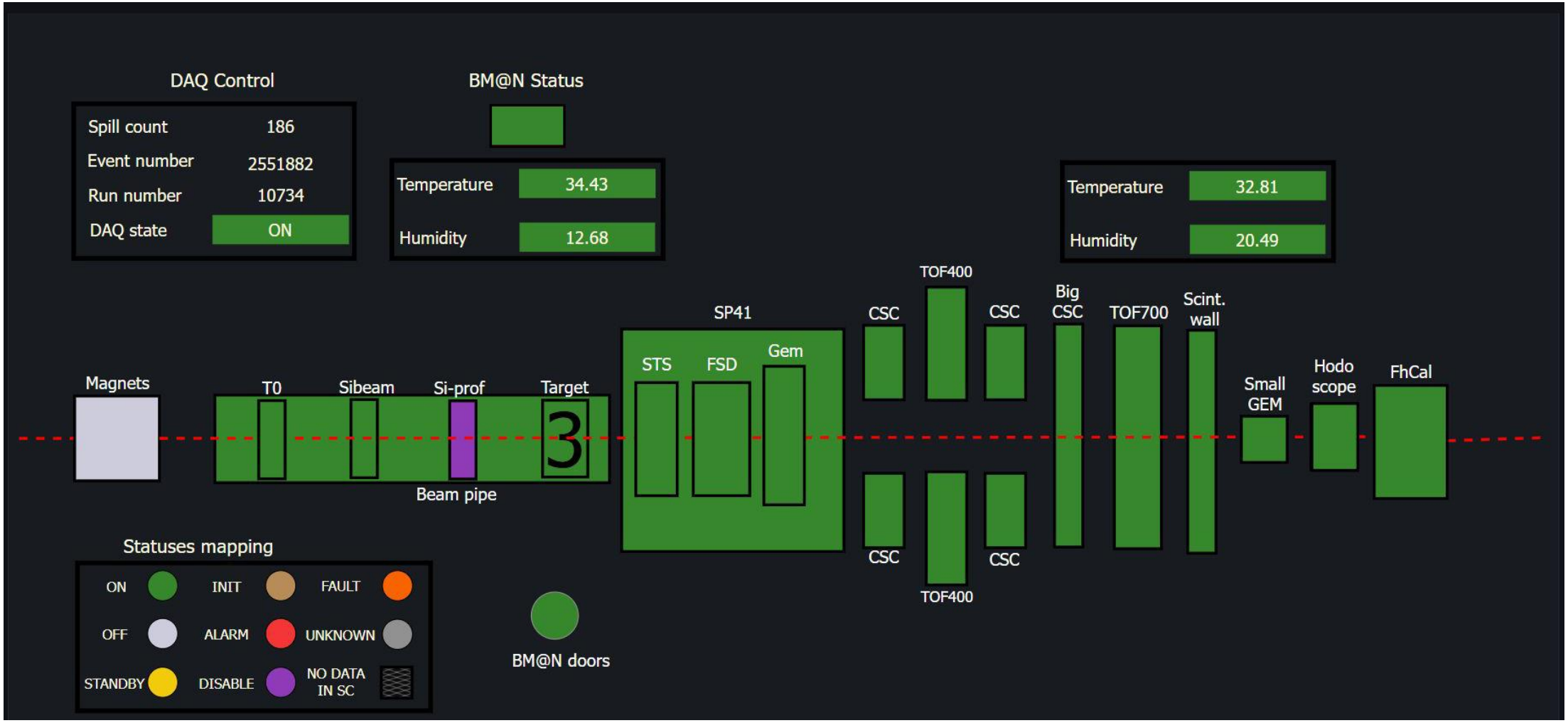


Magnets monitoring

Plans for future

- Monitoring of the ion pipeline vacuum
- Sending the SCS BMN status to DAQ.
- Correcting the State Machines of some Device Servers
- Updating the Grafana and transferring the dashboards to another plugin
- Monitor profilometers through the operator panel
- Monitoring of FSD and SiBT pedestals
- Mapping verification for future BMN run





Thank You for attention