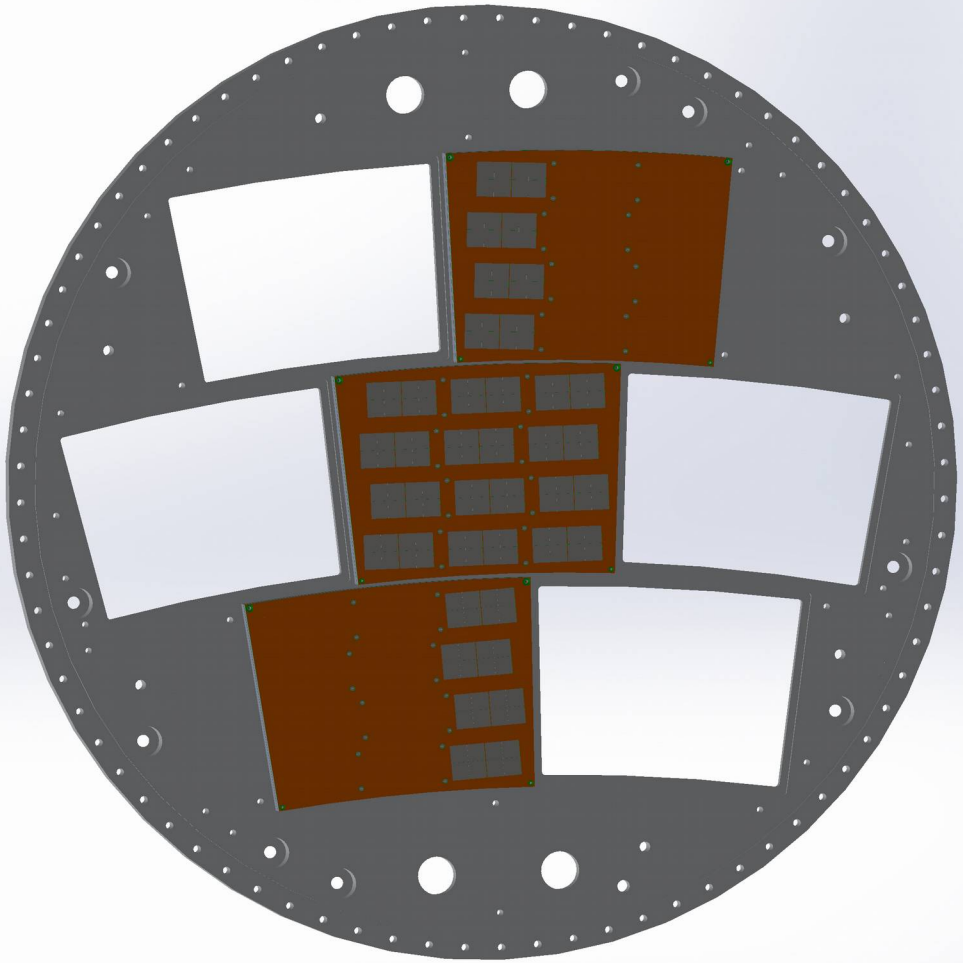
Construction of the modules and impressions of the Pixel-TPC testbeam

Michael Lupberger

University of Bonn

LCTPC WP Meeting 02.04.2015

Design phase

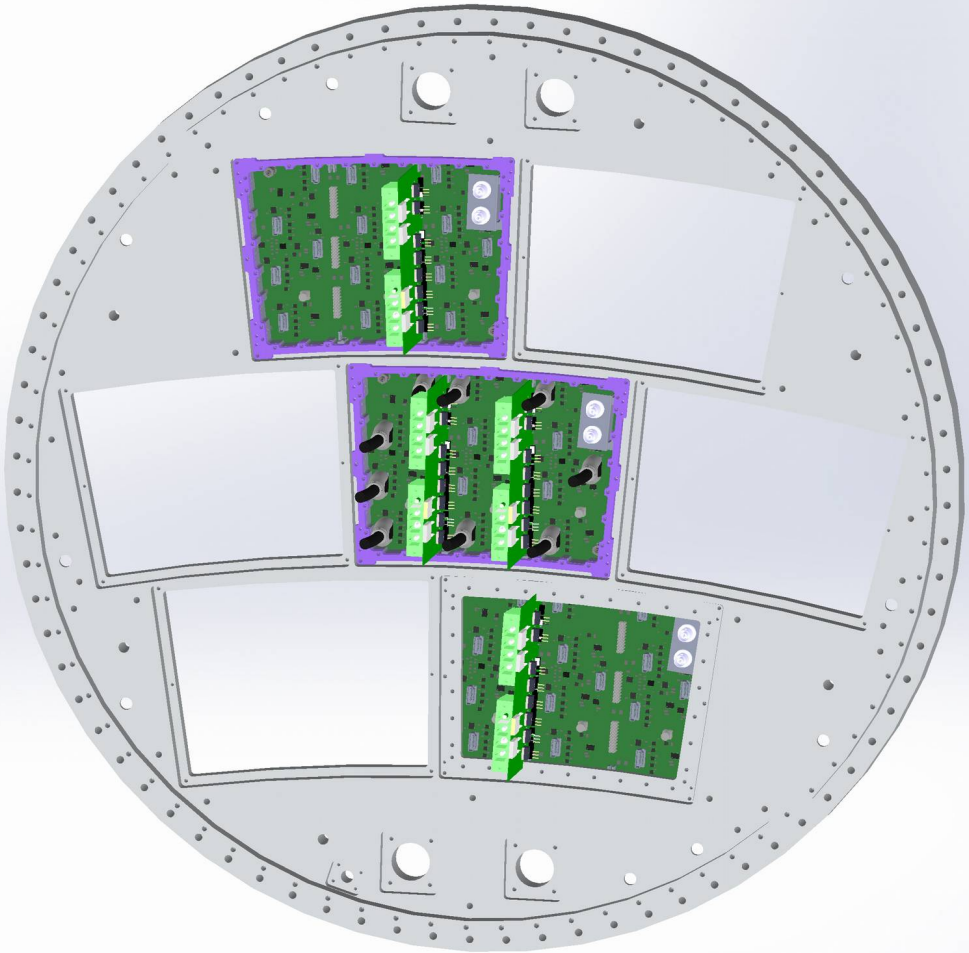


Endplate from inside:

3 Modules
- 1x 96 InGrids
- 2x 24 InGrids

Guard on
Insensitive area
Grids slightly below

Design phase



Endplate from outside:

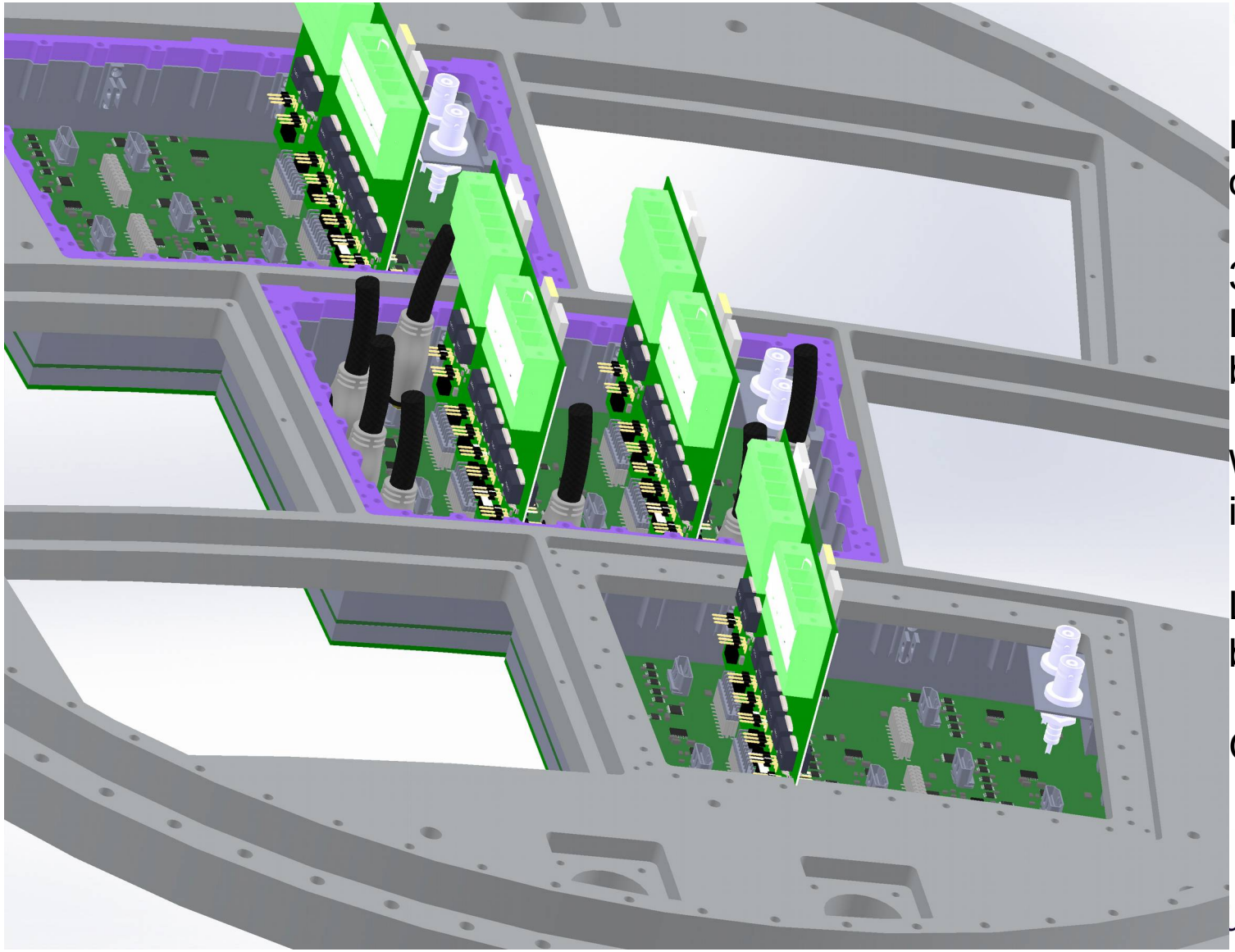
3 Modules
Data readout by HDMI cables

Water cooling inside module

Low voltage power boards

Grid, anode HV

Design phase



Endplate from outside:

3 Modules
Data readout by HDMI cables

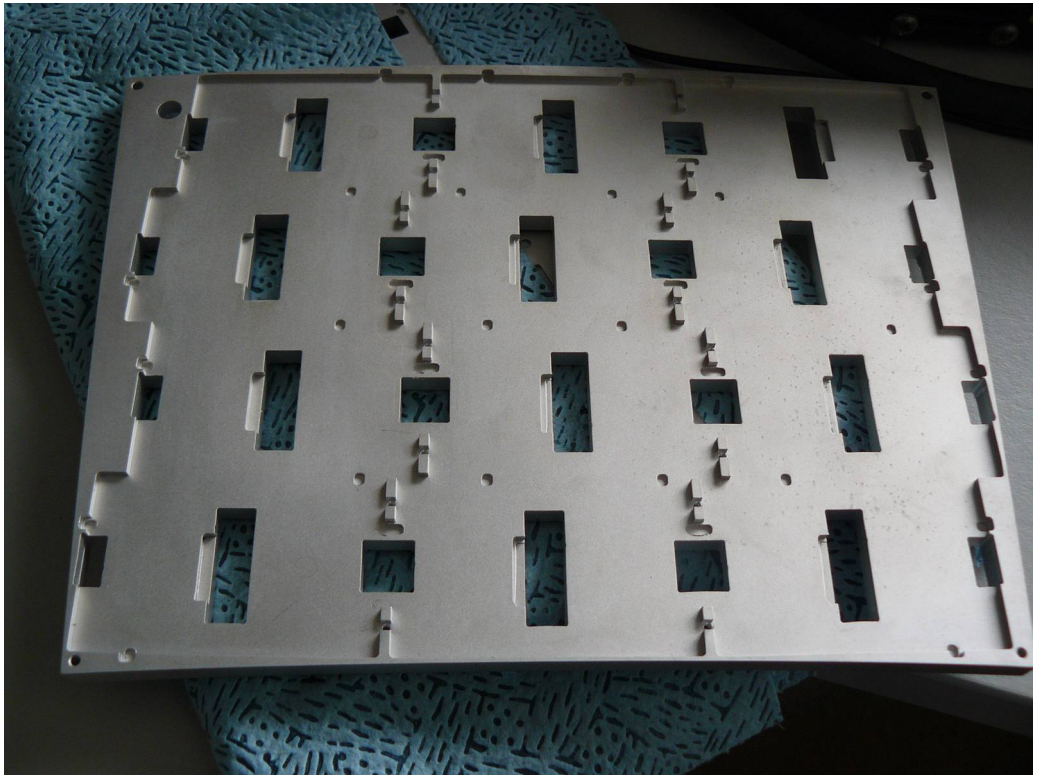
Water cooling inside module

Low voltage power boards

Grid, anode HV

universitätbonn

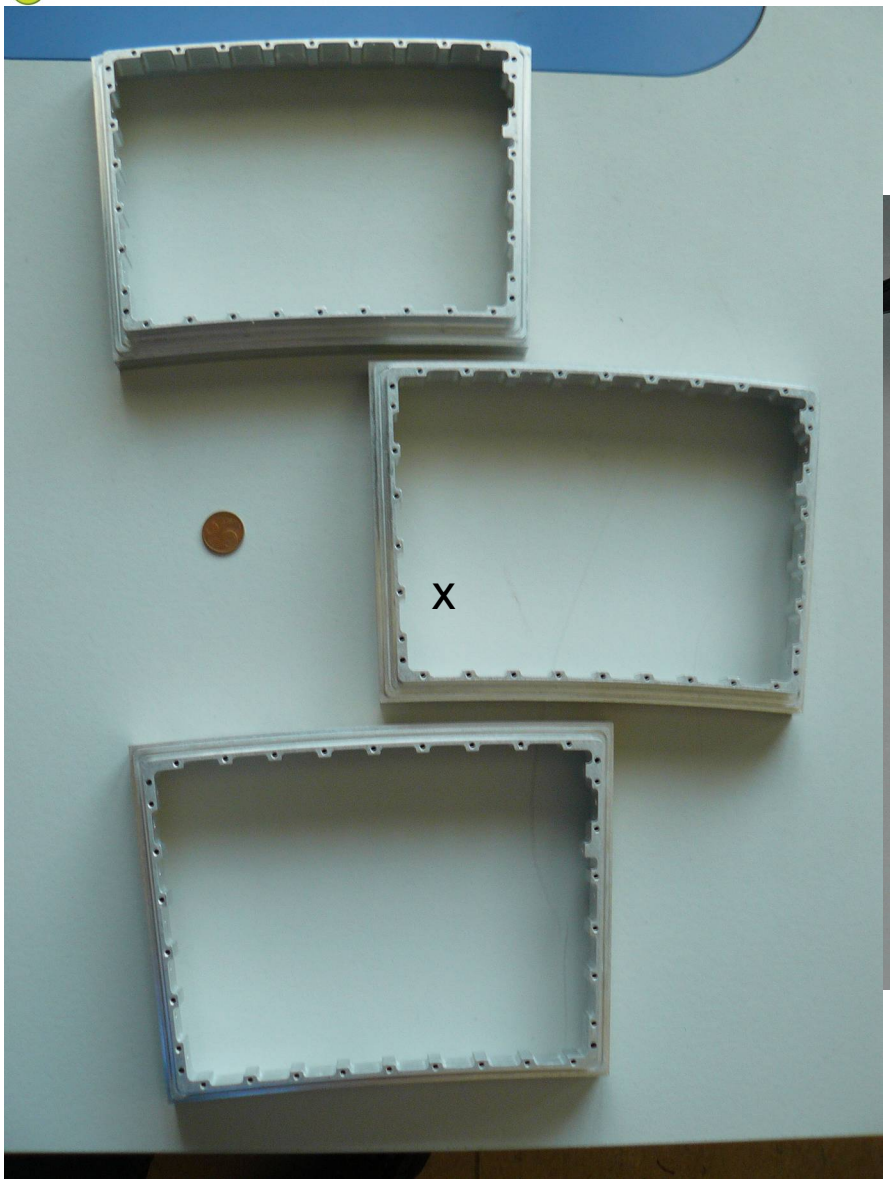
Construction phase



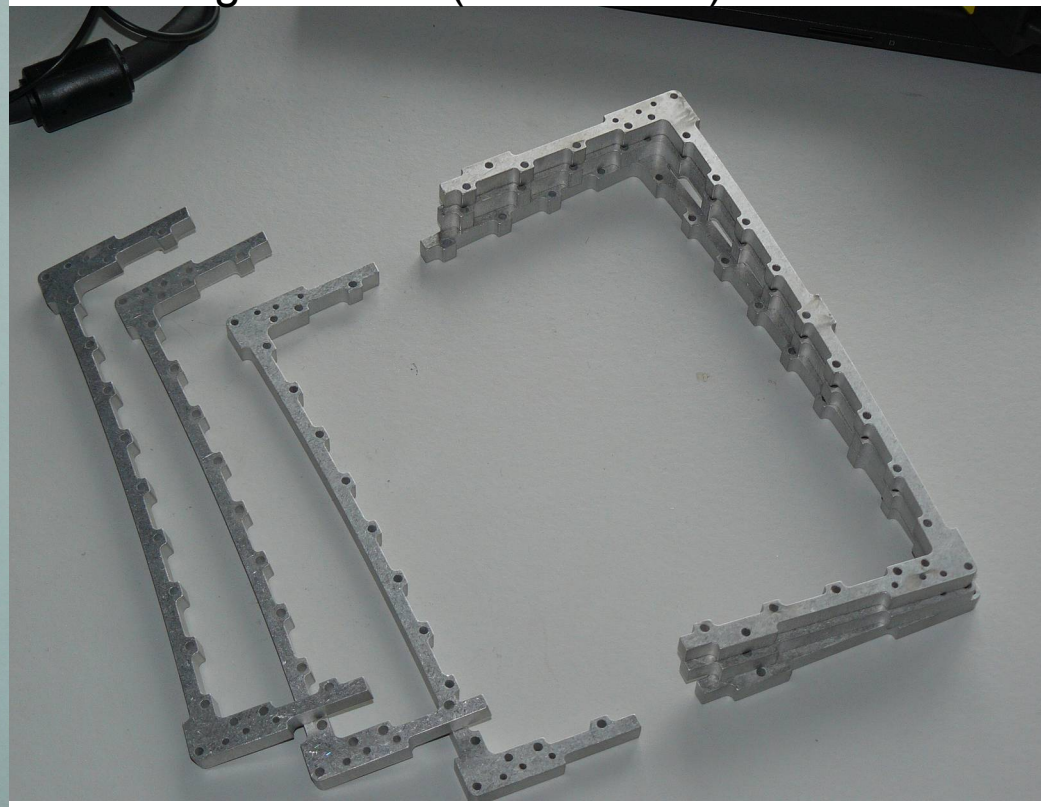
Carrier mechanics including cooling

universitätbonn

Construction phase

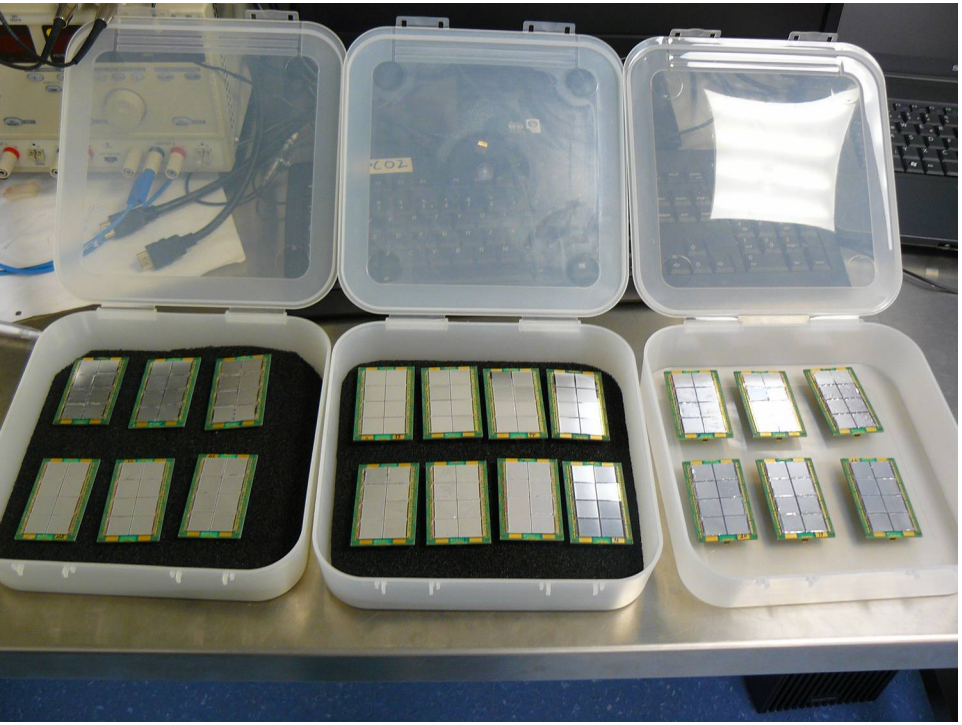


Light weight frames
And fitting brackets (thanks Dan)

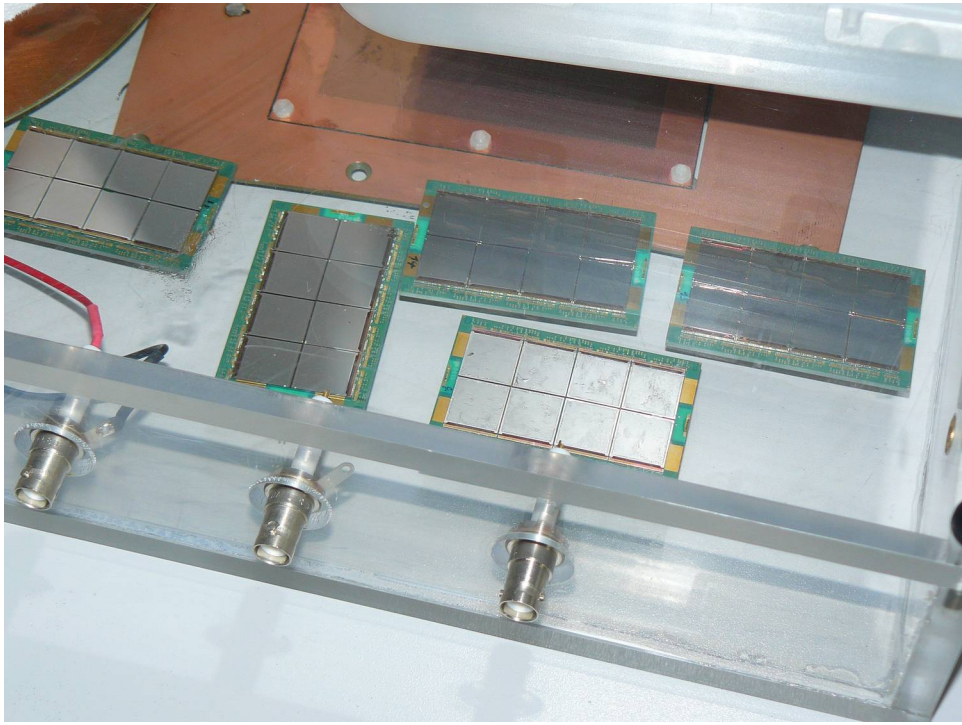


universitätbonn

Construction phase



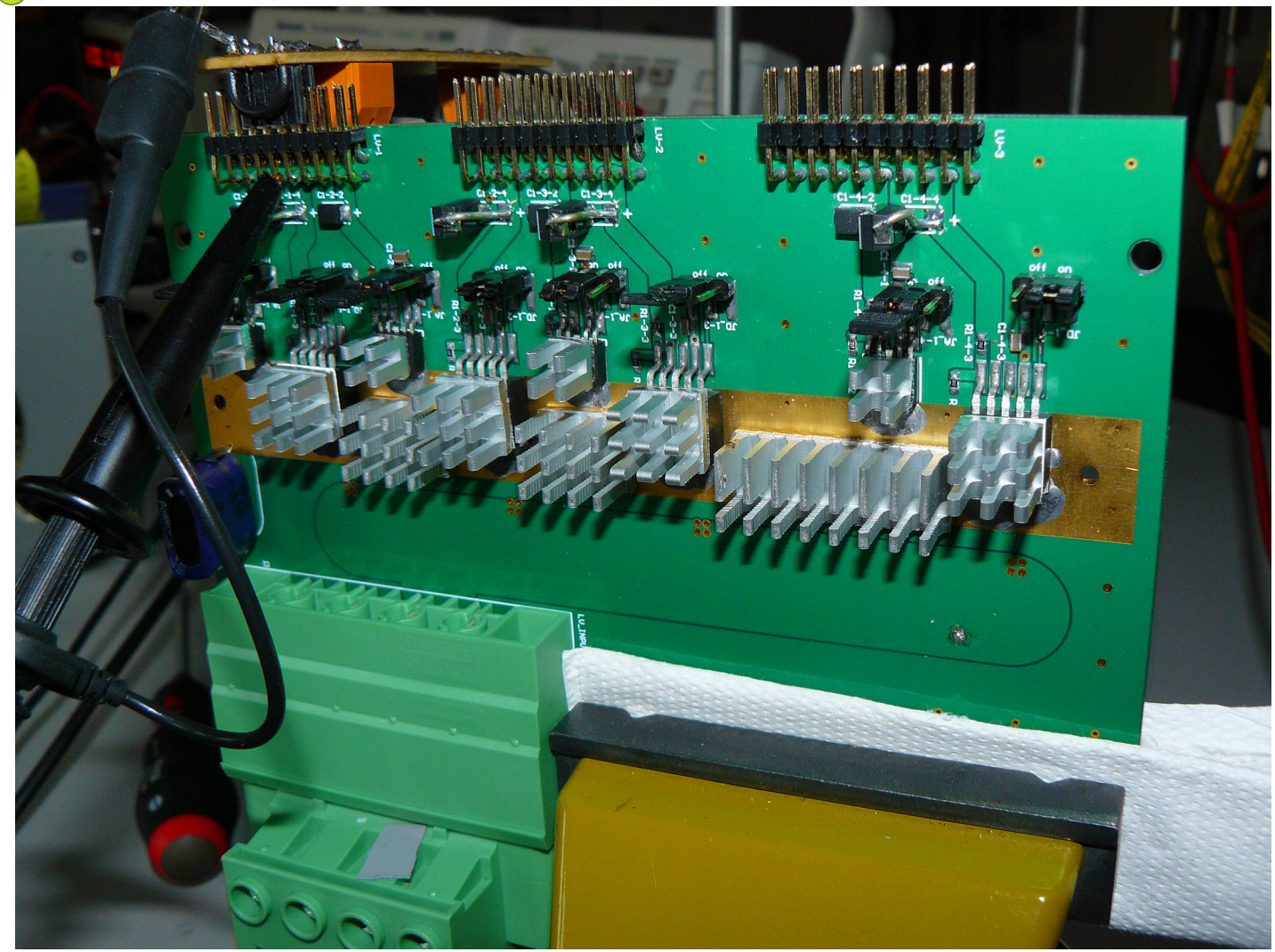
Octoboars in clean room



Octoboars waiting for assembley

universitätbonn

Construction phase

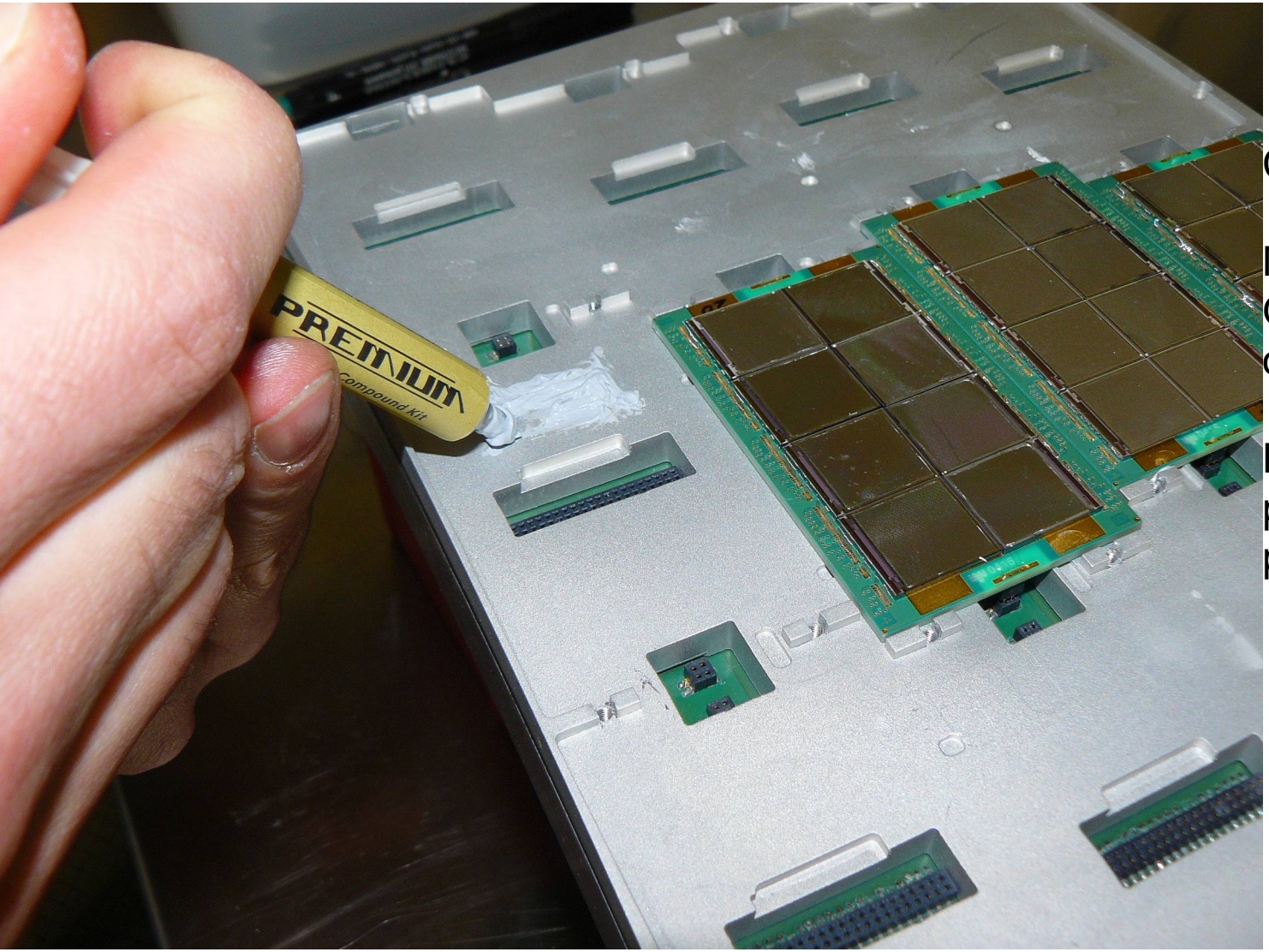


Low voltage power boards for Timepix chips:

- connector to Intermediate board
- capacitors
- LDOs
- connector to thick cables

universitätbonn

Construction phase



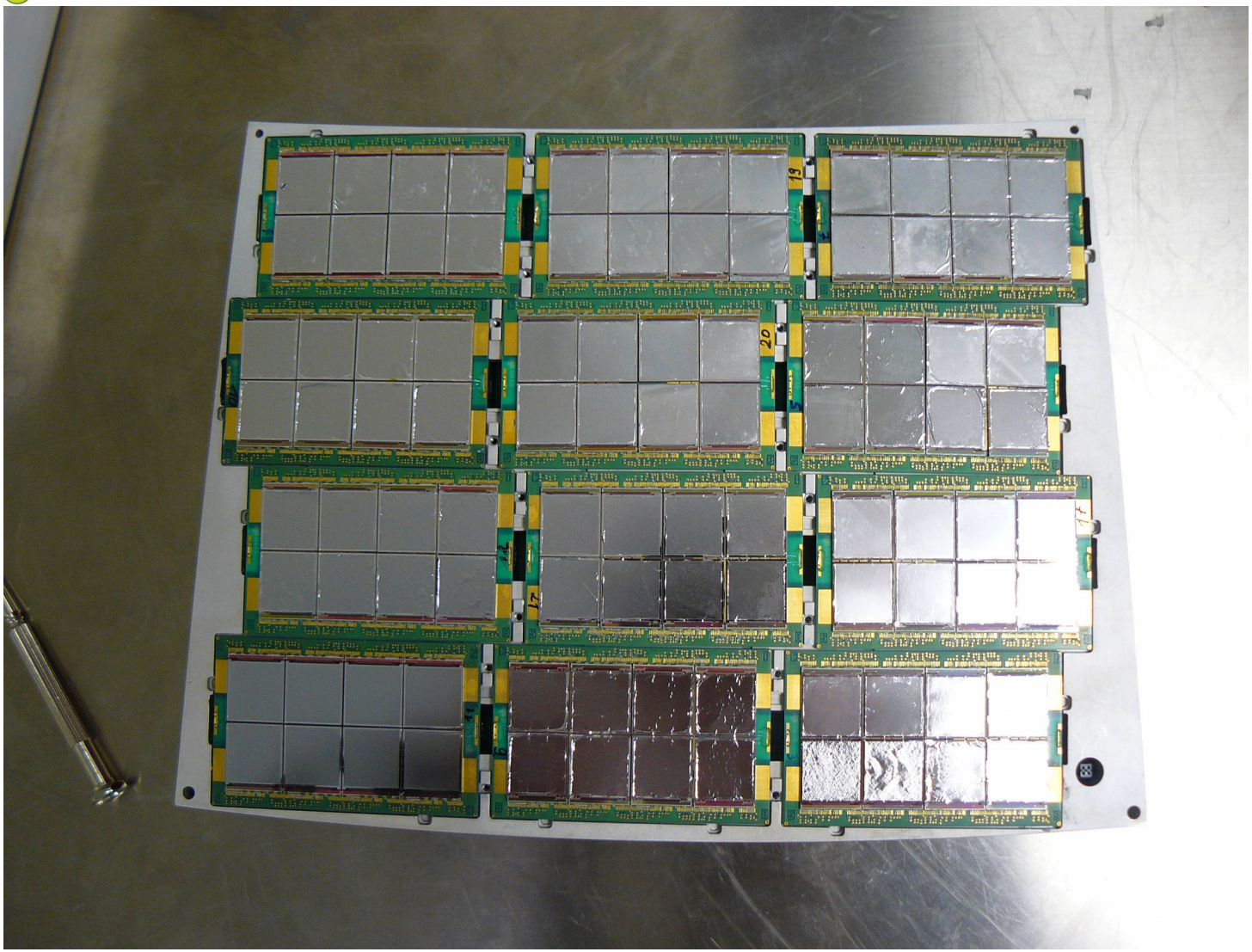
Clean room work:

Mounting of Octoboards on central module

Heat-conductive paste to cooling plate

universitätbonn

Construction phase

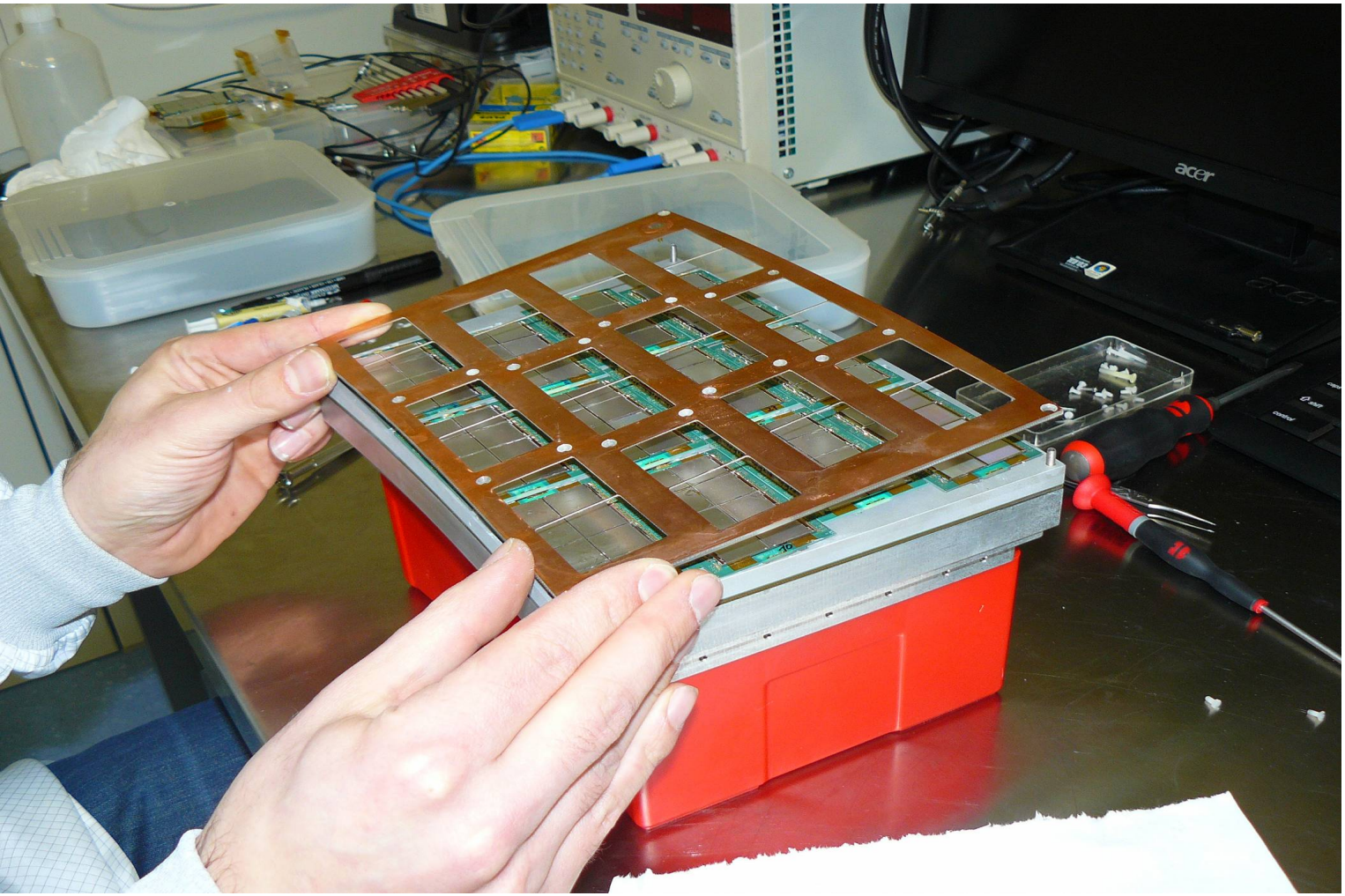


Clean room work:

Mounting of
Central module
with all ocotboards

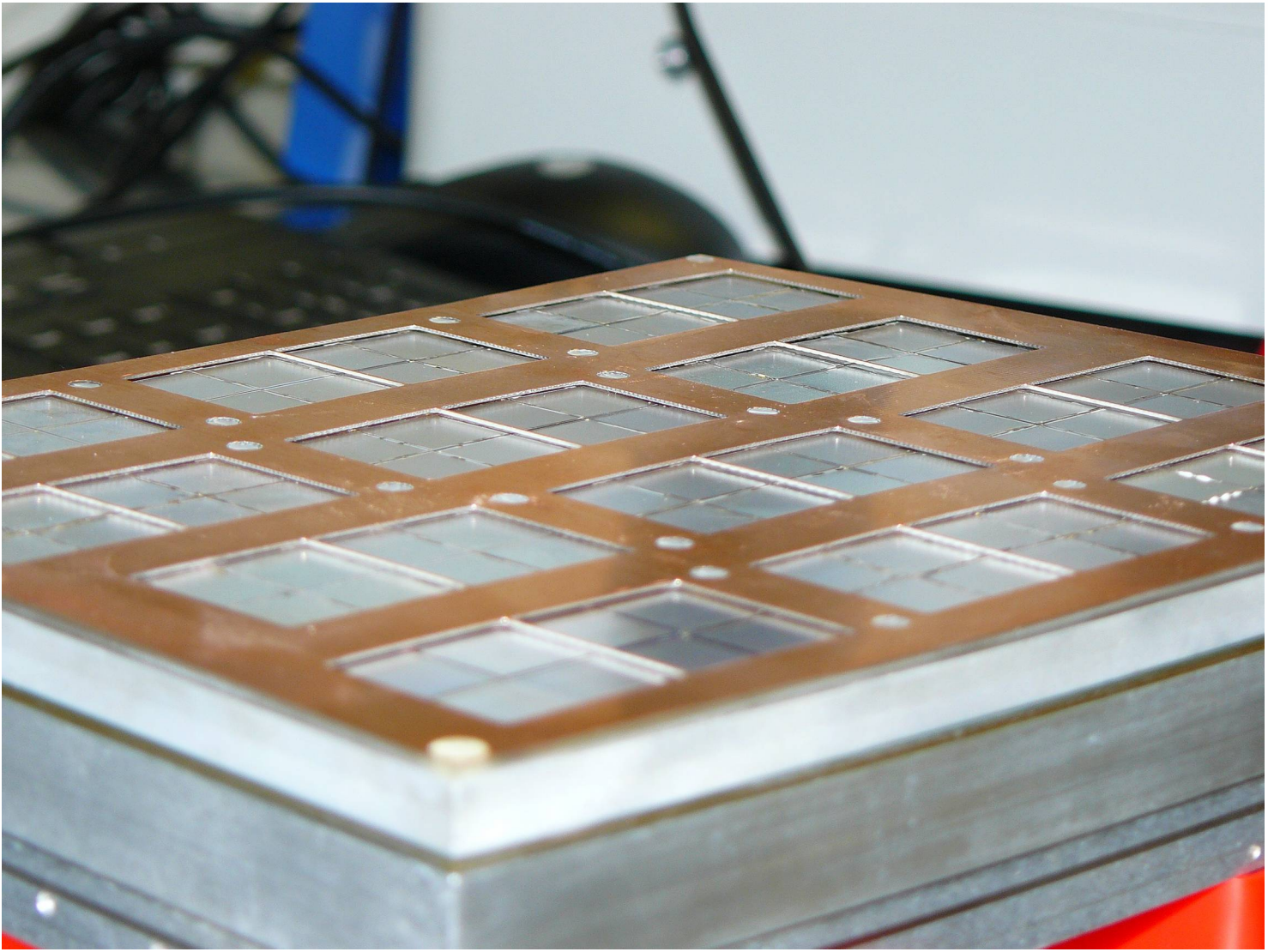
universitätbonn

Construction phase

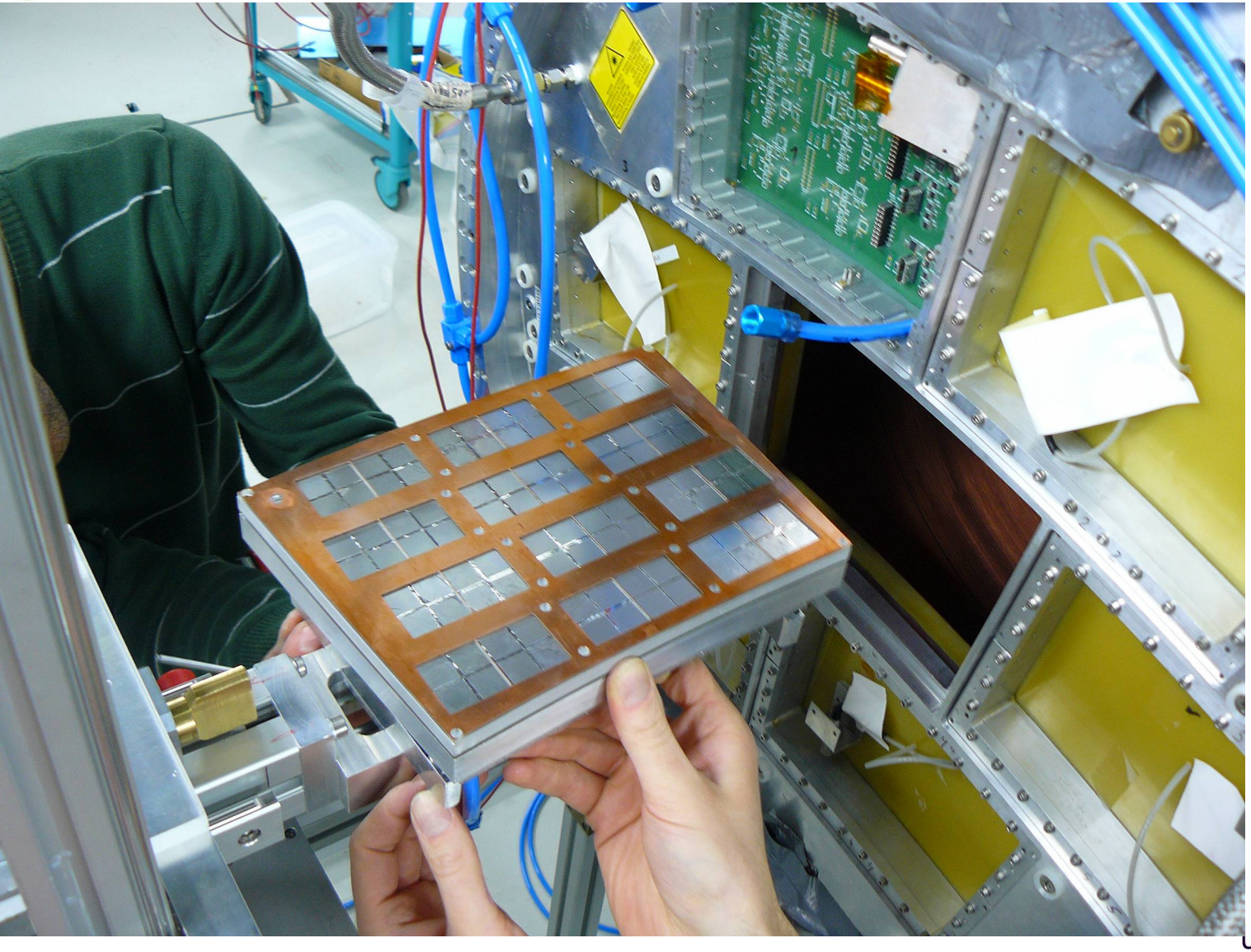


universitätbonn

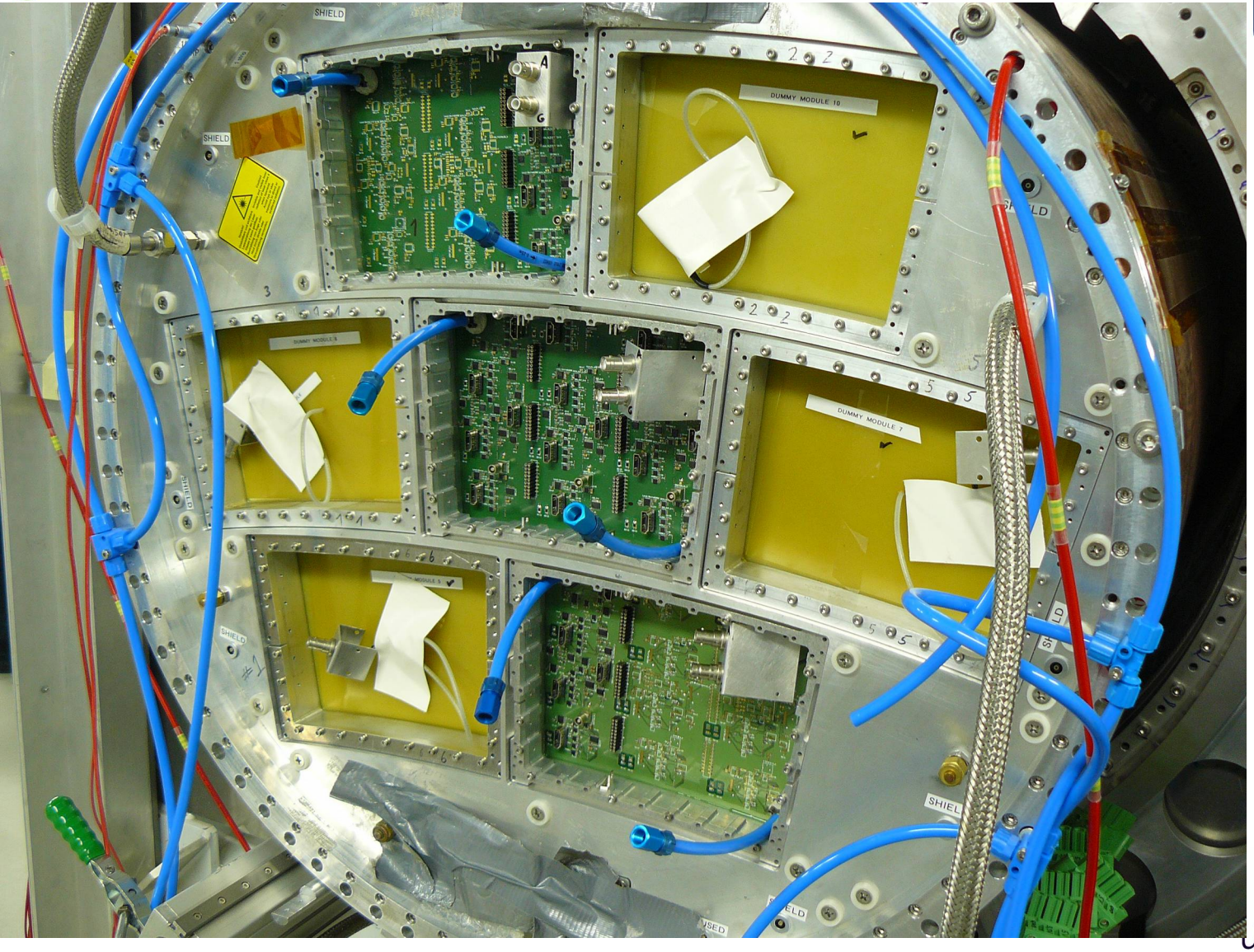
Construction phase



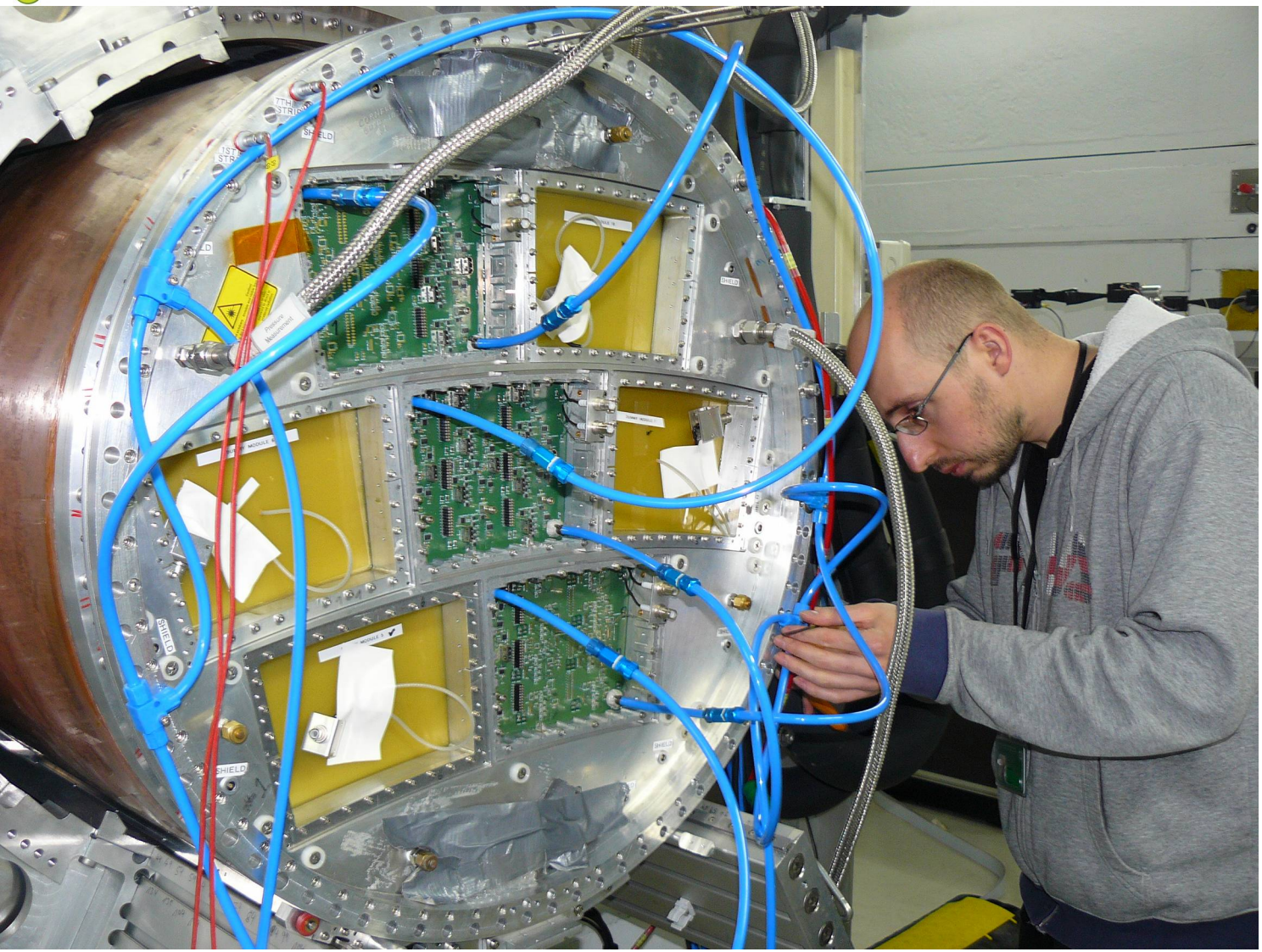
Mounting

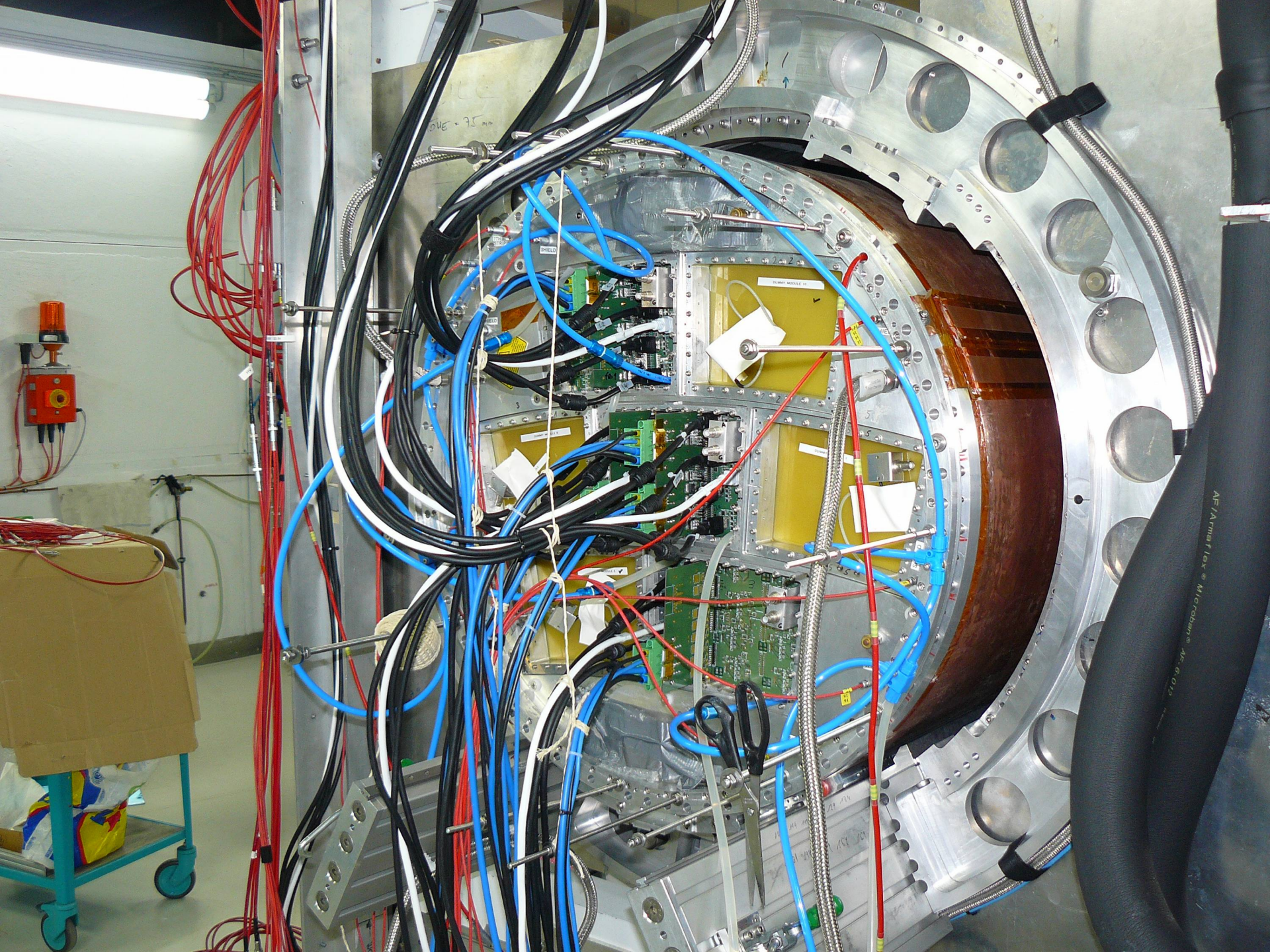


Mounting

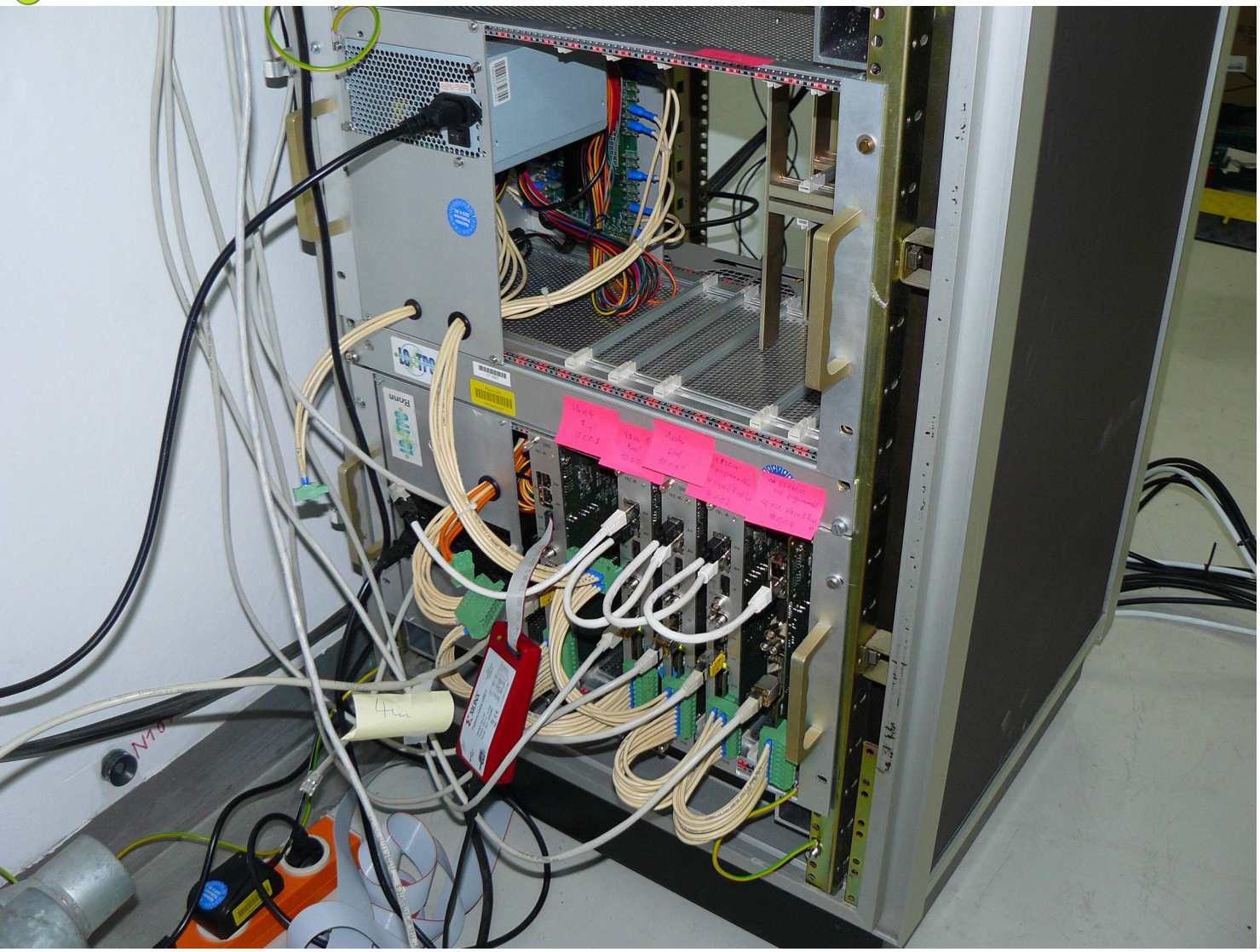


Mounting



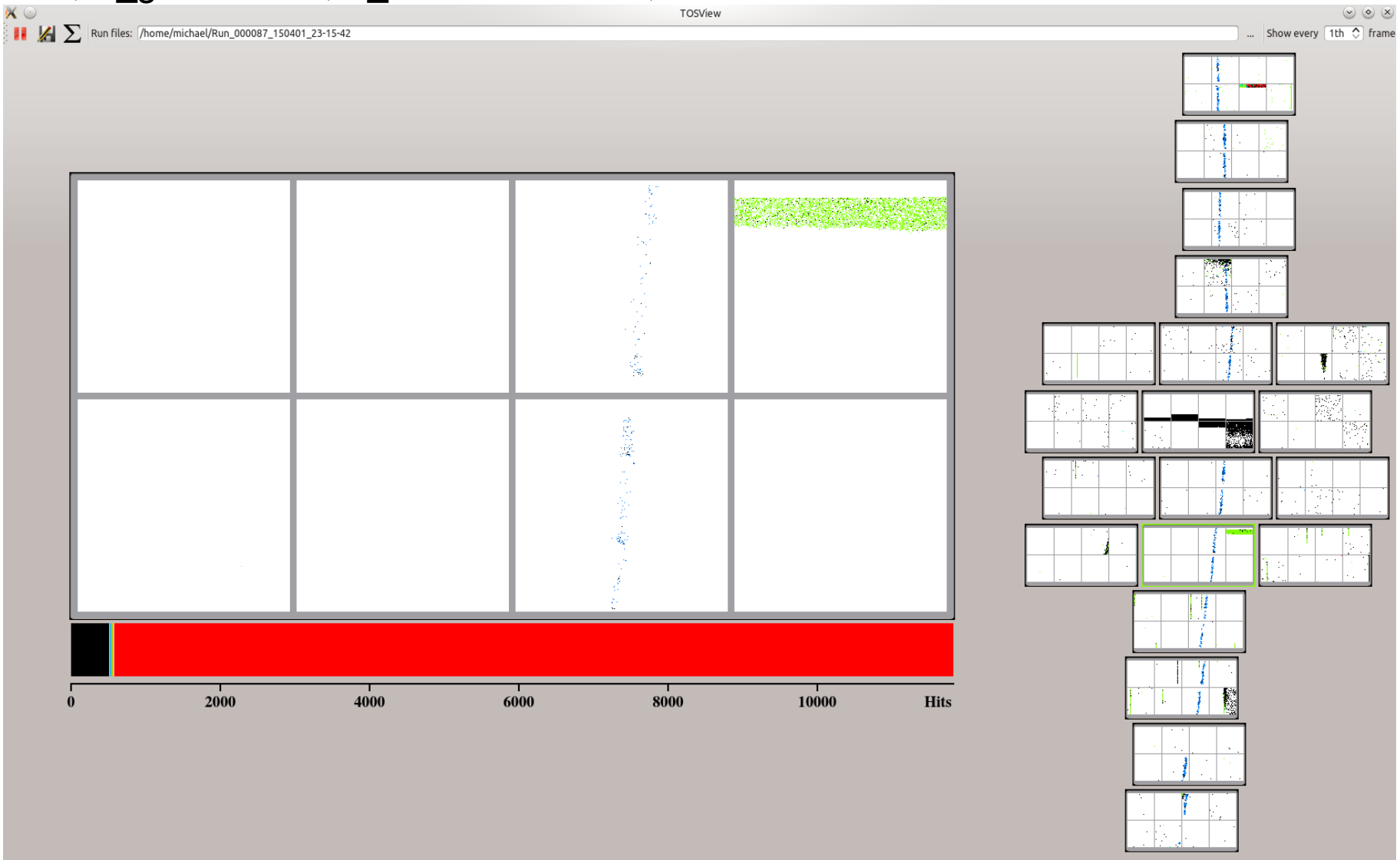


Mounting

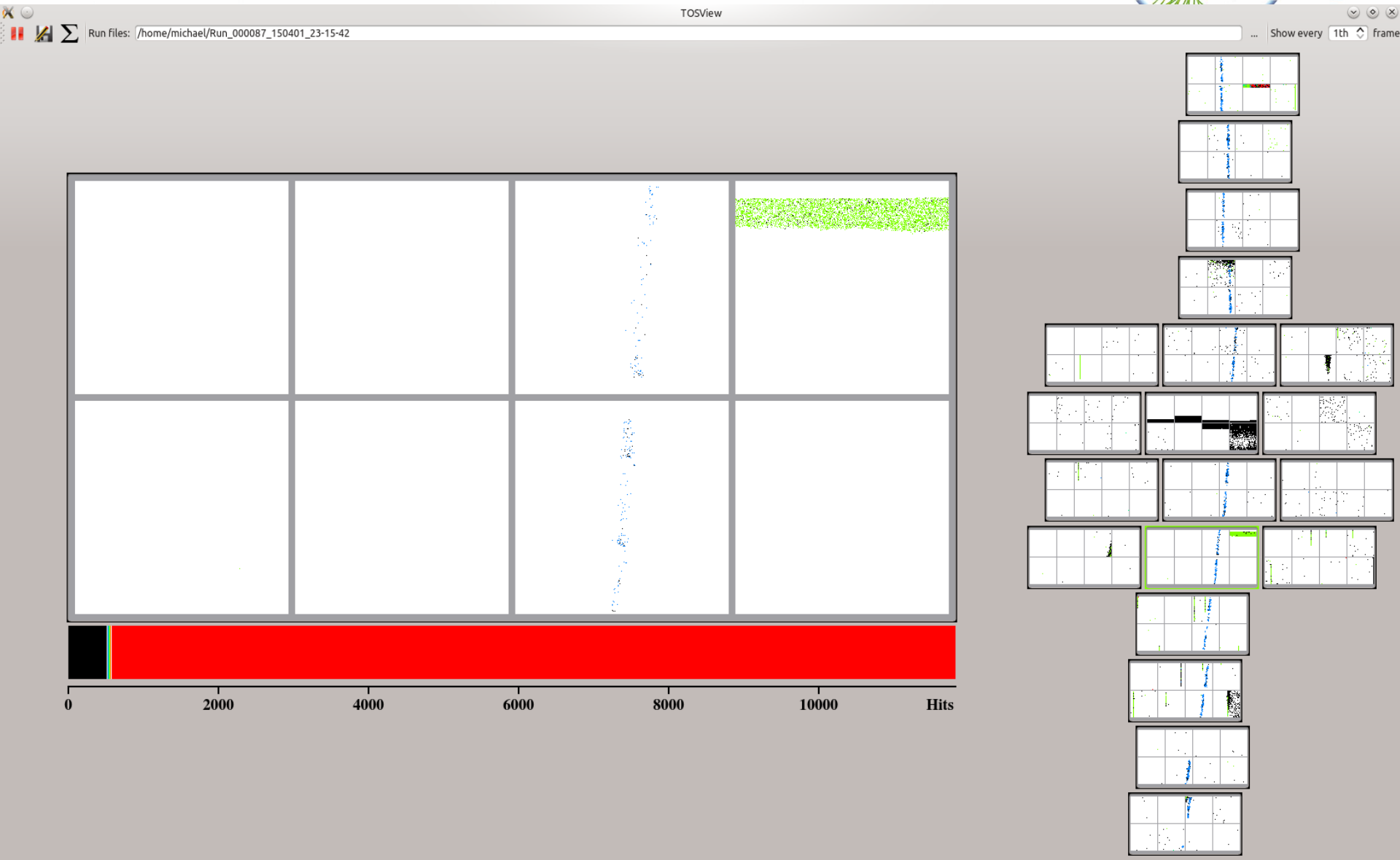


Events

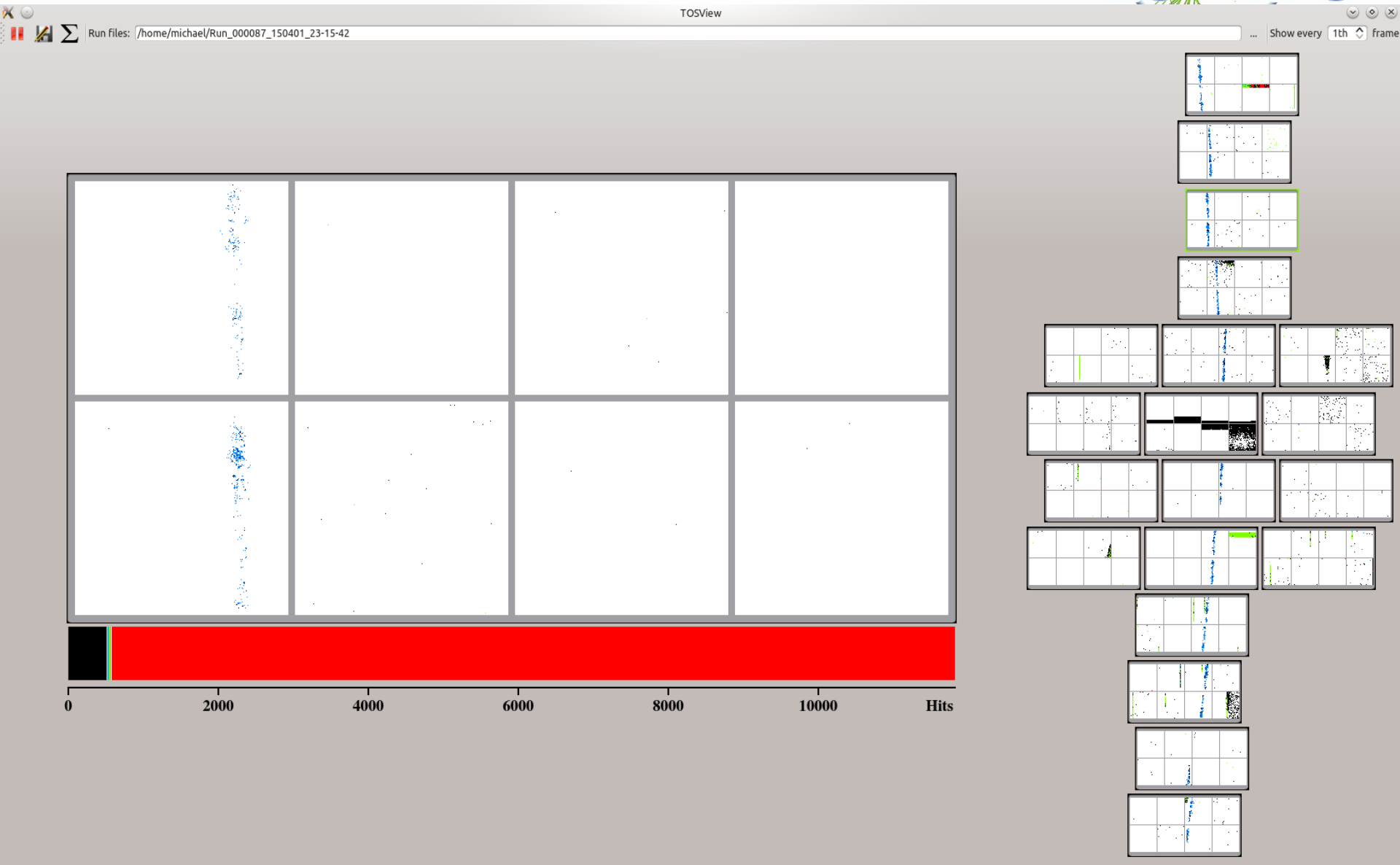
Event display image (not aligned) from a run with:
B= 1T, U_grid = 340V, E_drift = 230 V/cm, z ≈ 5 cm



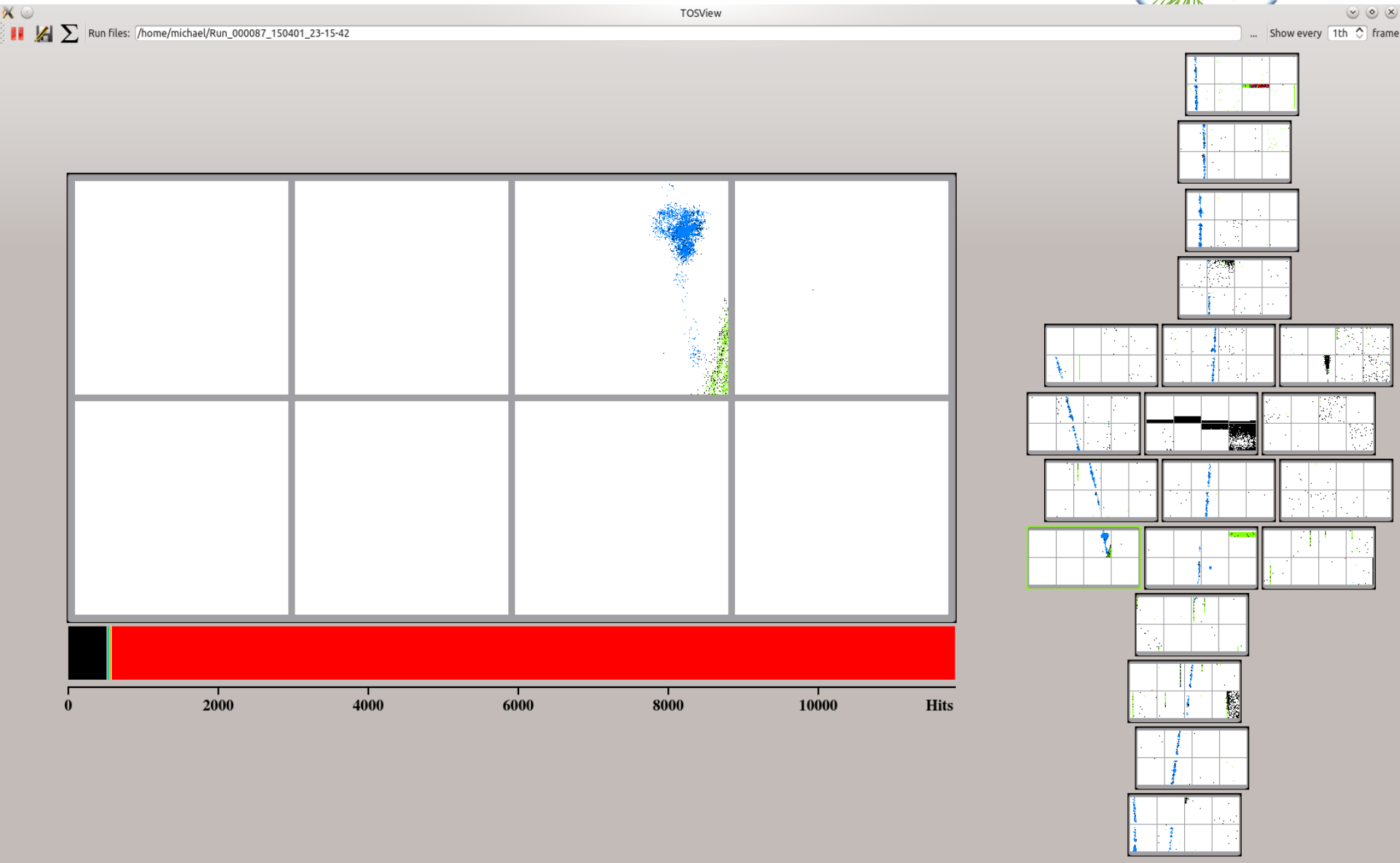
Events


TOSView
Run files: /home/michael/Run_000087_150401_23-15-42
Show every 1th frame
0
2000
4000
6000
8000
10000
Hits
/home/michael/Run_000087_150401_23-15-42/run_000087_data_000127_150401_23-16-25.txt

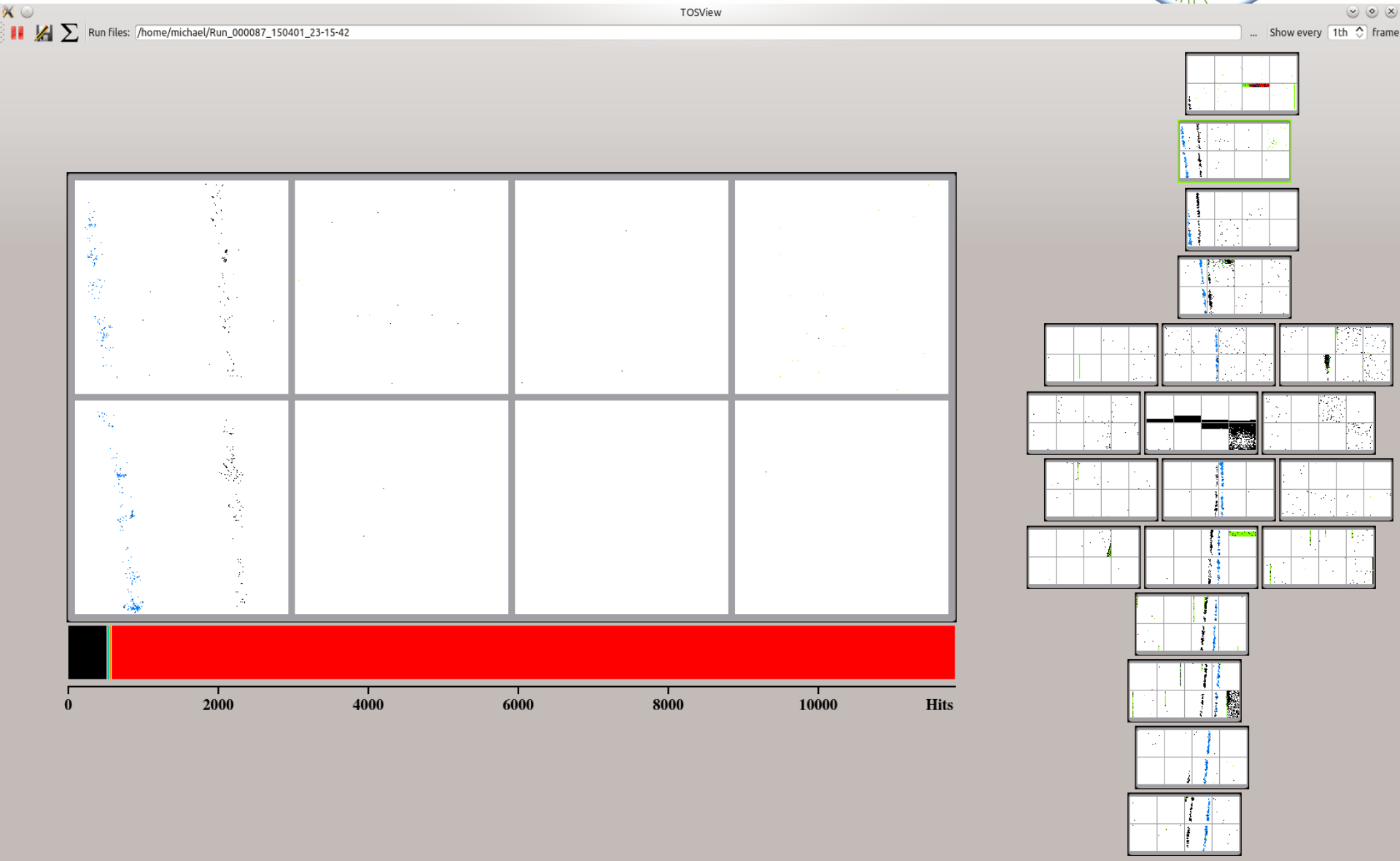
Events


TOSView
Run files: /home/michael/Run_000087_150401_23-15-42
Show every 1th frame
0
2000
4000
6000
8000
10000
Hits
/home/michael/Run_000087_150401_23-15-42/run_000087_data_000089_150401_23-16-10.txt

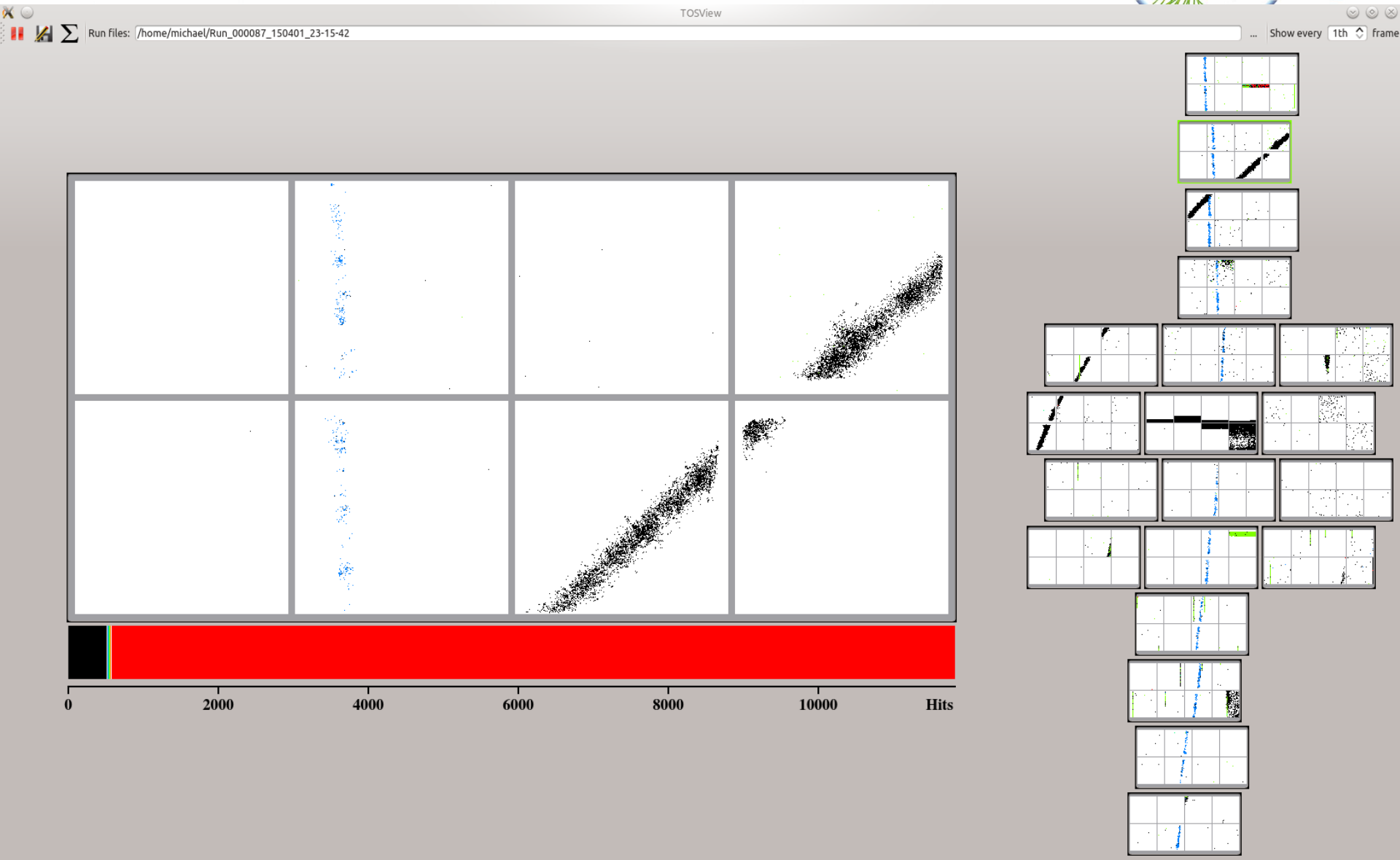
Events


TOSView
Run files: /home/michael/Run_000087_150401_23-15-42
Show every 1th frame
0
2000
4000
6000
8000
10000
Hits
/home/michael/Run_000087_150401_23-15-42/run_000087_data_000144_150401_23-16-29.txt

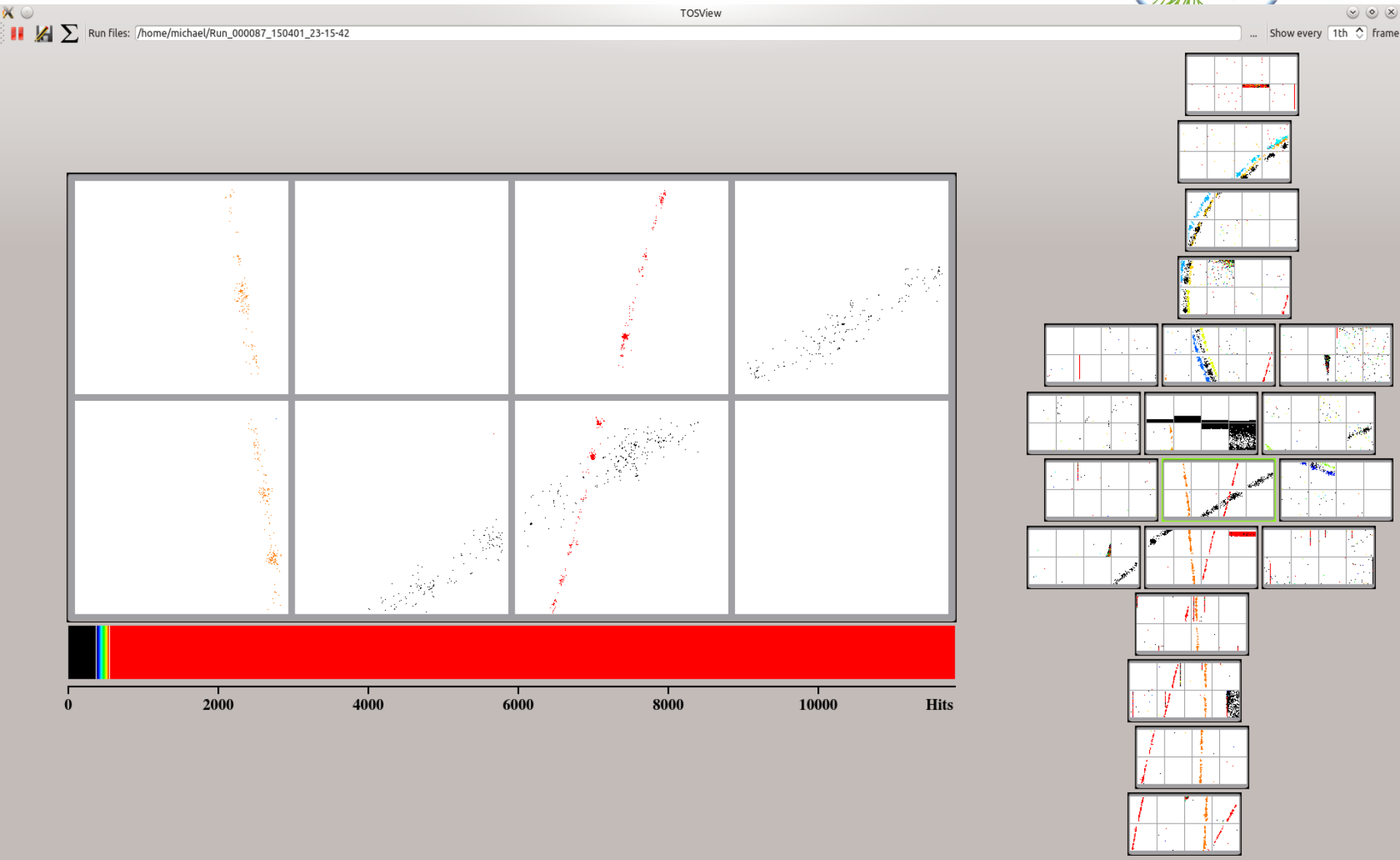
Events


TOSView
Run files: /home/michael/Run_000087_150401_23-15-42
Show every 1th frame
0
2000
4000
6000
8000
10000
Hits

Events


TOSView
Run files: /home/michael/Run_000087_150401_23-15-42
Show every 1th frame
0
2000
4000
6000
8000
10000
Hits
/home/michael/Run_000087_150401_23-15-42/run_000087_data_000621_150401_23-18-41.txt

Events


TOSView
Run files: /home/michael/Run_000087_150401_23-15-42
Show every 1th frame
0
2000
4000
6000
8000
10000
Hits
/home/michael/Run_000087_150401_23-15-42/run_000087_data_001679_150401_23-23-36.txt