

ECal assembling status

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Dubna
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Ecal modules mass production

JINR responsibility
768 modules

All materials are here

312 modules are produced

462 modules – production started
and will be finished in 2021

CHINA responsibility
768 modules

Production
started

Status will be
reported by
Yi Wang



In total we are planning to produce 1538 modules
and assembly 16 full sectors (out of 25)

Small part of the modules stock



Each module will be tested and calibrated by means of cosmic muons.

Test area is in the final stage of construction.

Tests simultaneously 32 modules.

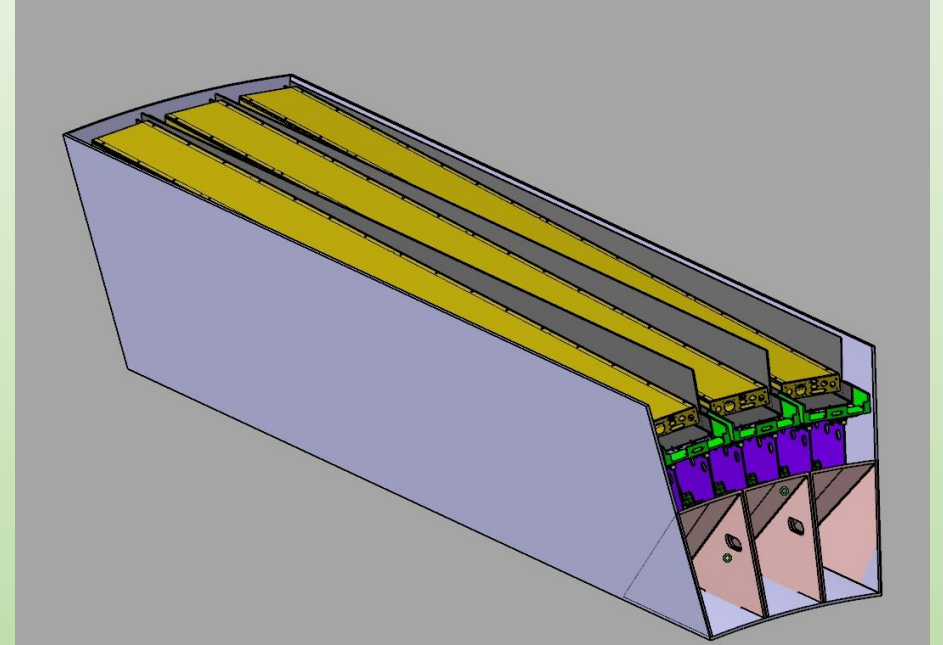
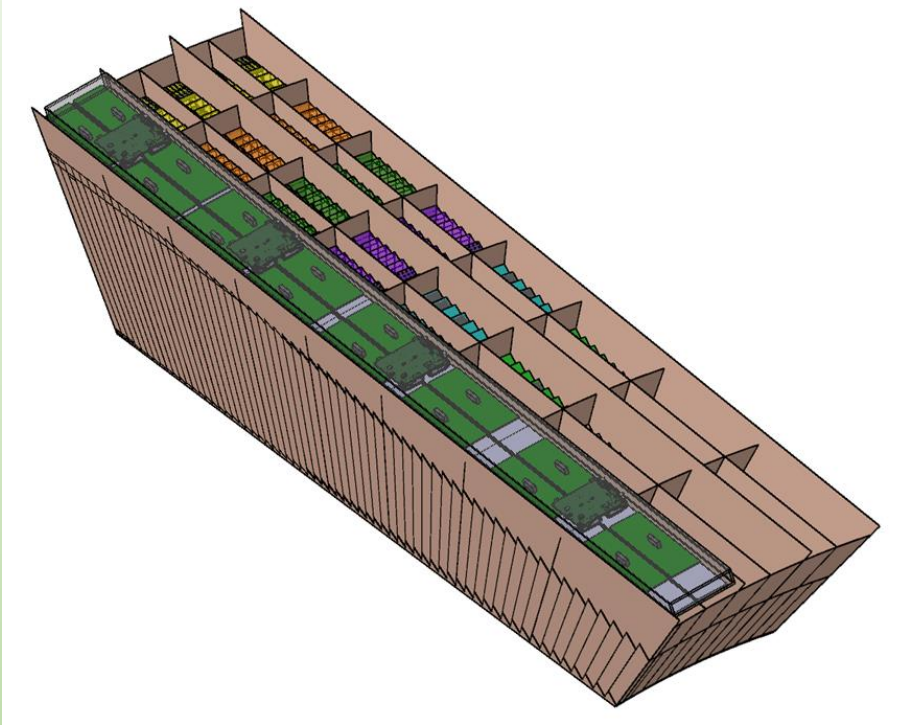
Each 24 hours -32 modules

Mass test of the modules will start in May.

Modules test are not going to be a bottleneck because test time for the 48 modules (one half-sector - one assembly unit) is certainly shorter than assembly time for one half-sector.

Sectors assembling

Test assembling of ECal sectors started

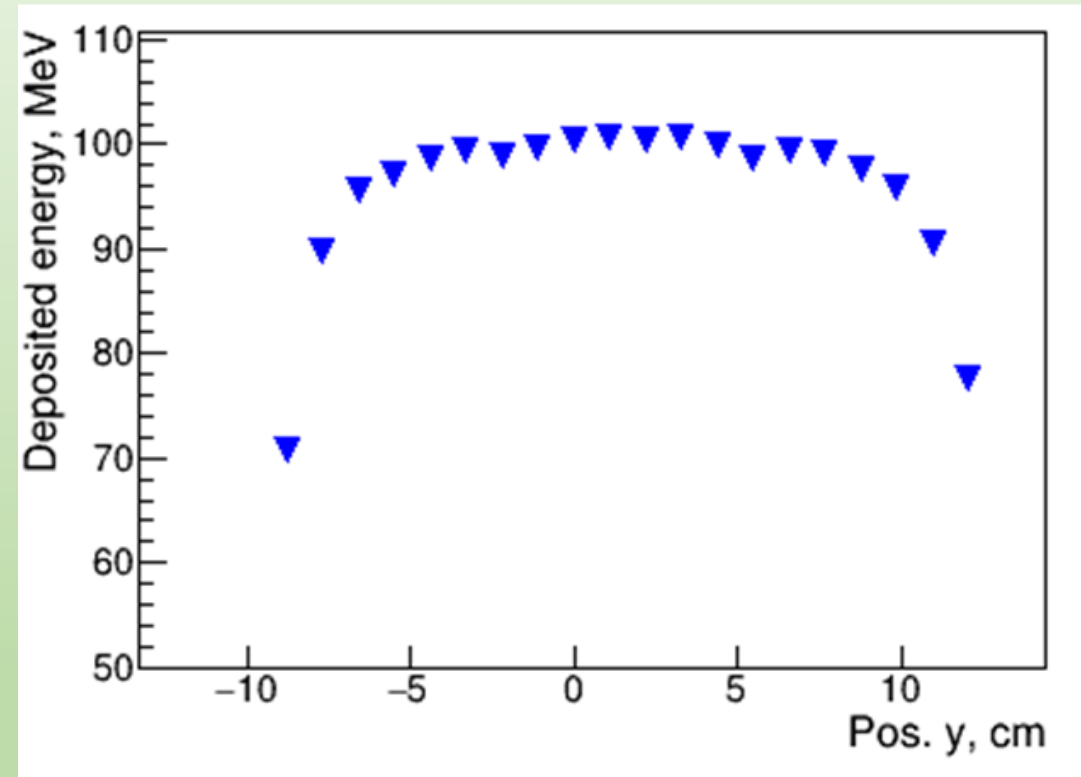
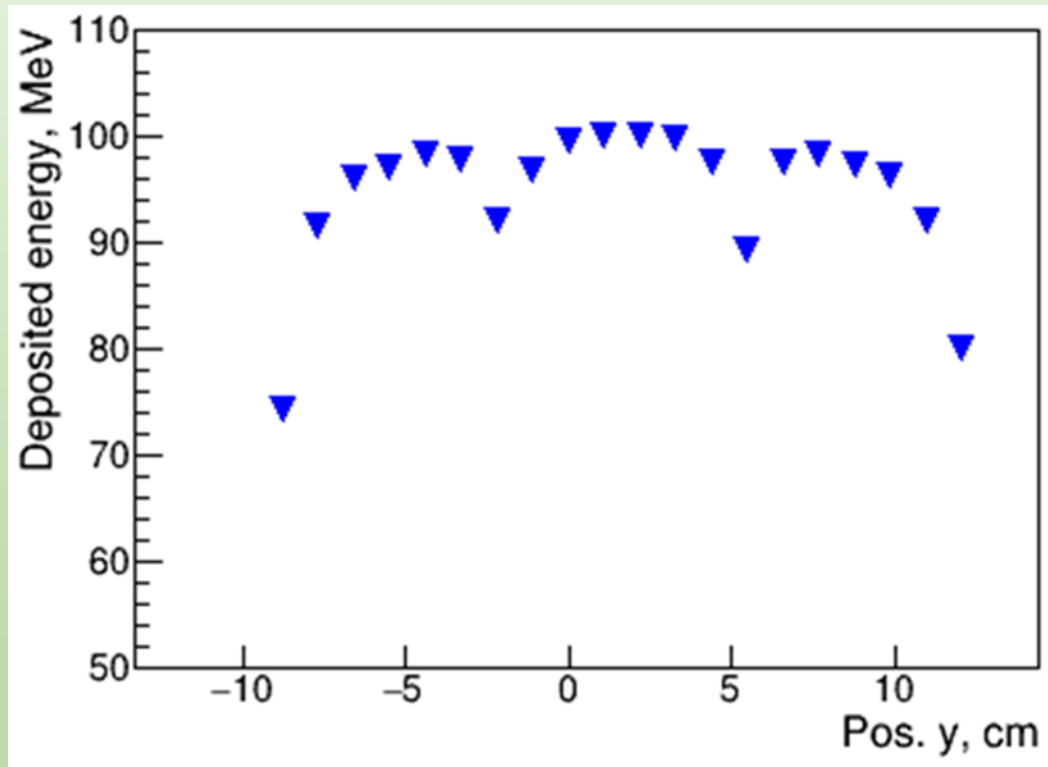
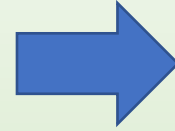


We changed design of half-sectors

No more G10 walls inside.

Now inside one half-sector calorimeter will have maximum possible degree of homogeneity

MC electrons



New design

Slipway 1



Problems –

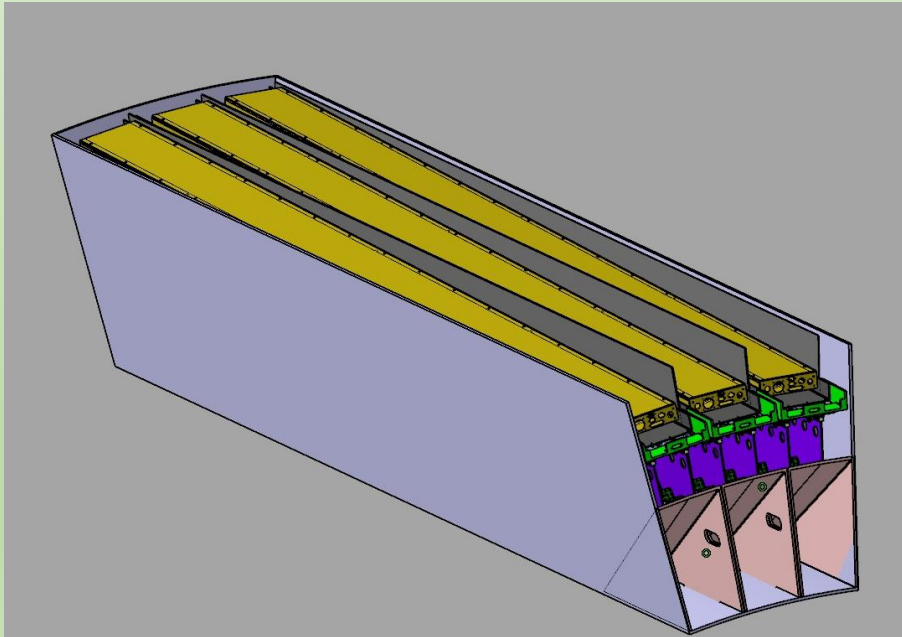
How to lift and displace the glued 8 or 16 modules gently

Epoxy setting time – 24 hours

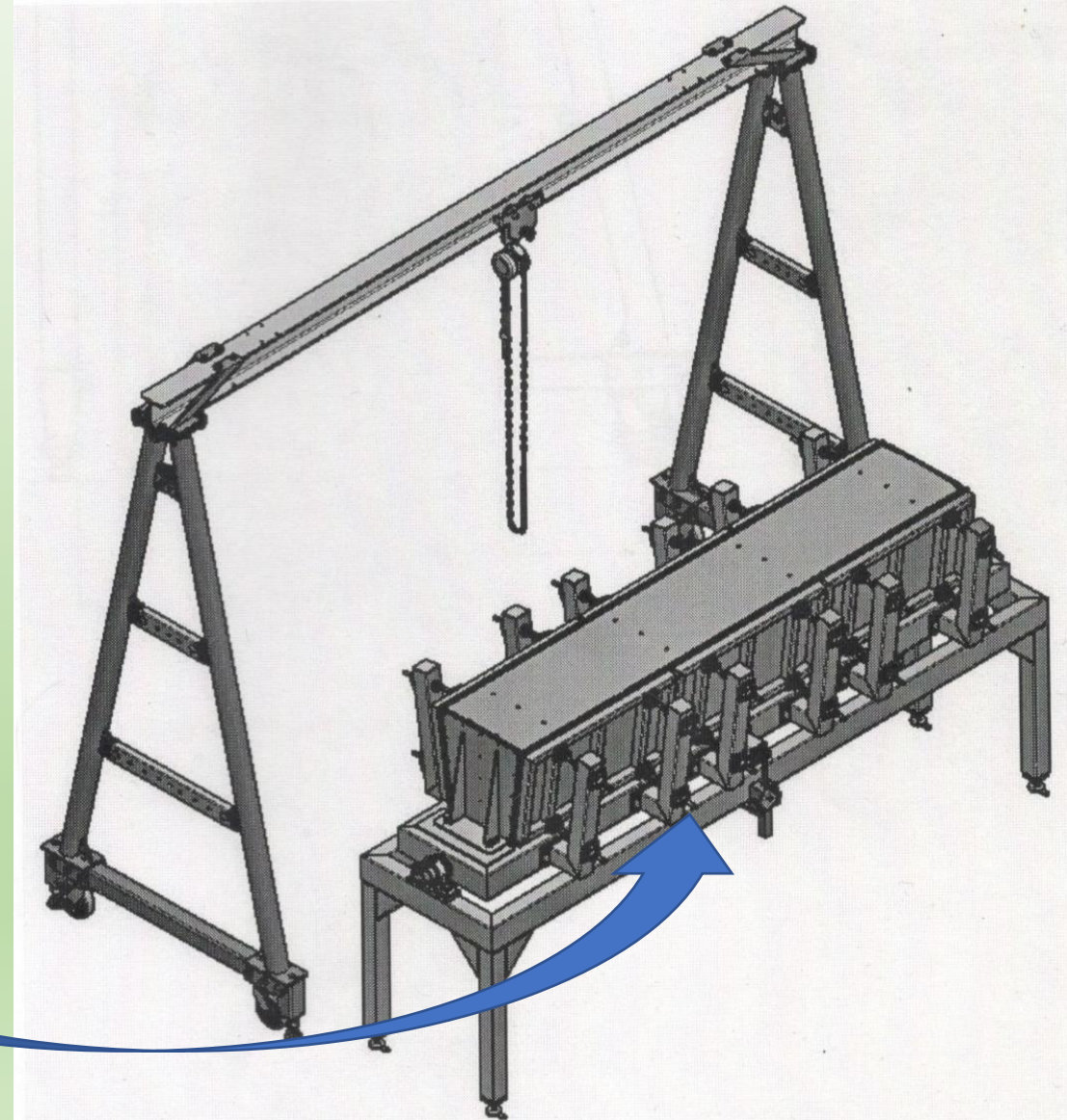
Manpower for the sectors assembling

Half-sector Container
in production

First container arriving in May



Slipway2 to assembly half sector
Ready





Slipway 2

Best estimated time for the production of 1/3 half-sector is 48 hours

3 1/3 sector - 48 hours (3 x slipway 1)

24 hours to build one half-sector from the three 1/3 sectors

72 hours for one half-sector

Very optimistically - three weeks for one full sector

China modules?

After assembling each half-sector should be equipped by the electronics

Before installation to the MPD each half-sector collect cosmic muons for the calibration

Renovation of the Assembling area

Creation of a area for assembling sectors

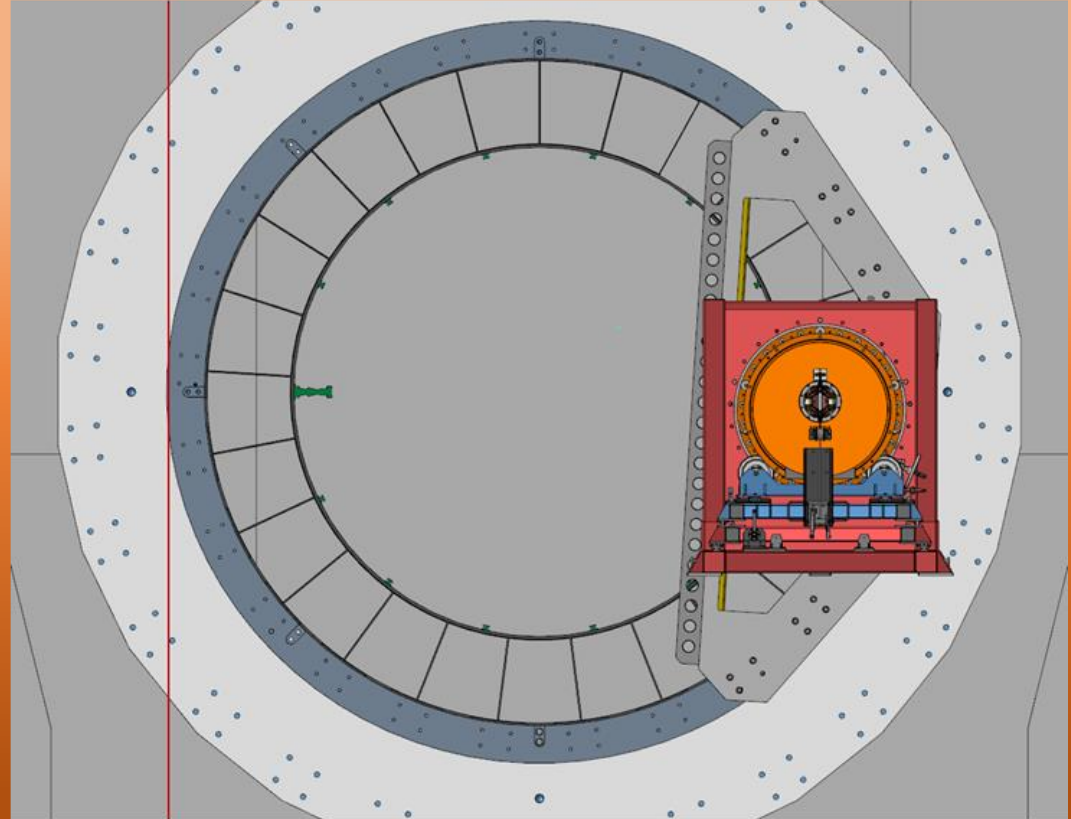
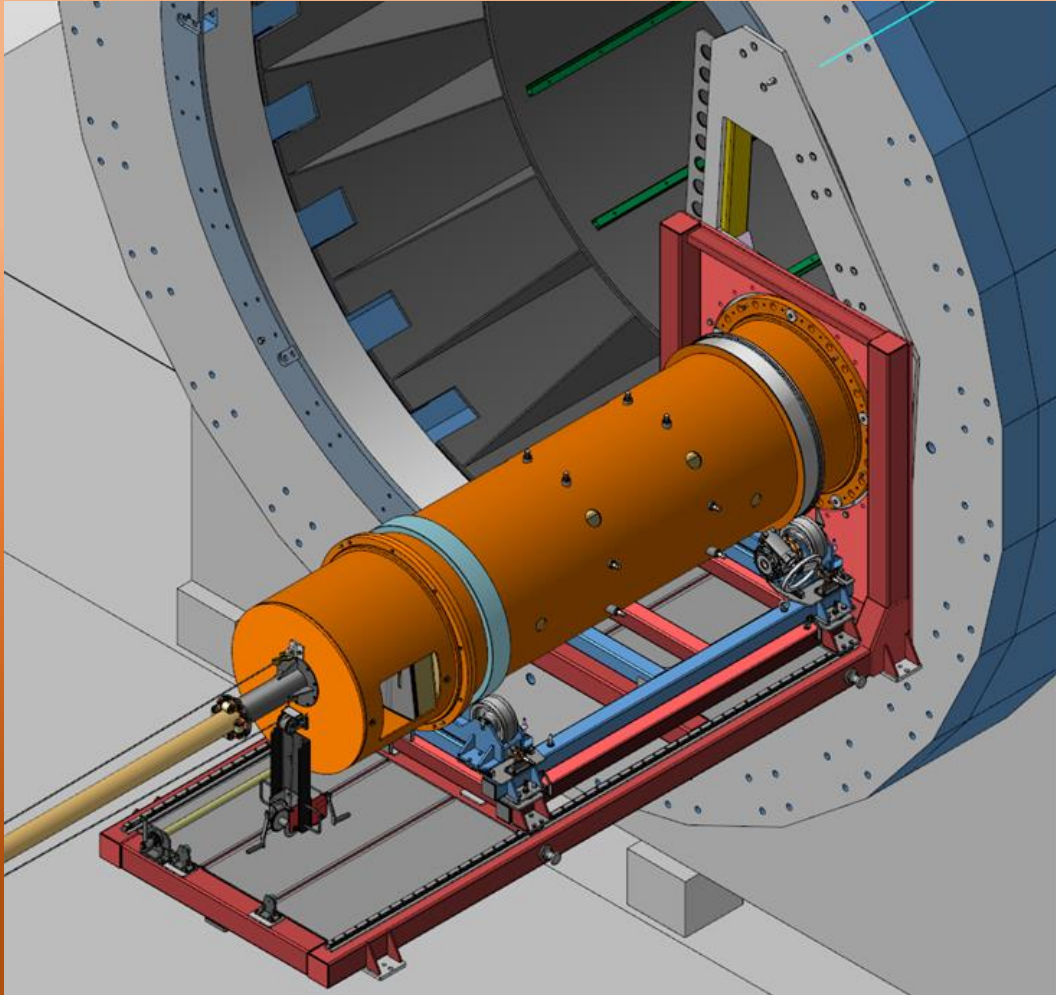
Collection of tools and materials

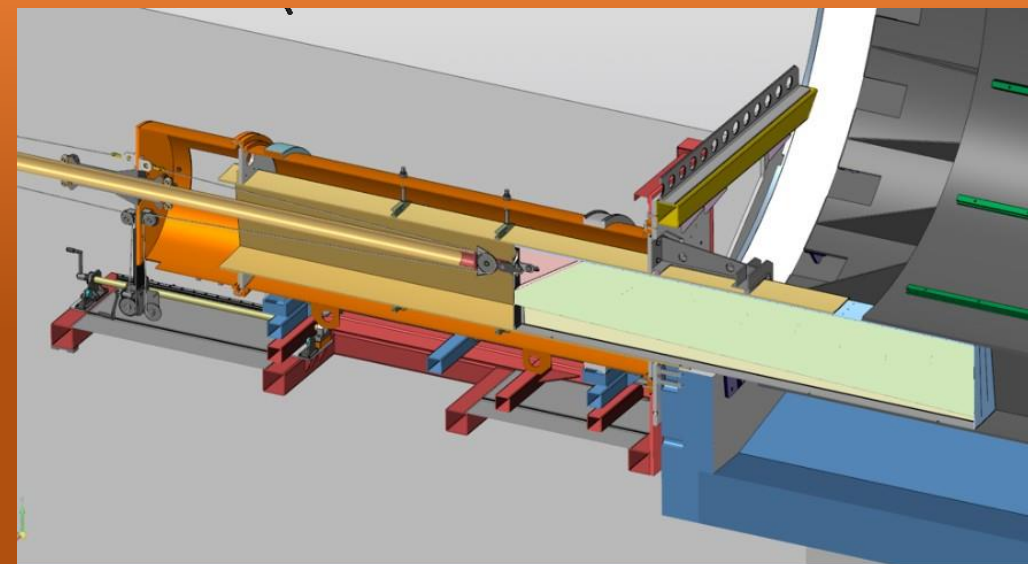
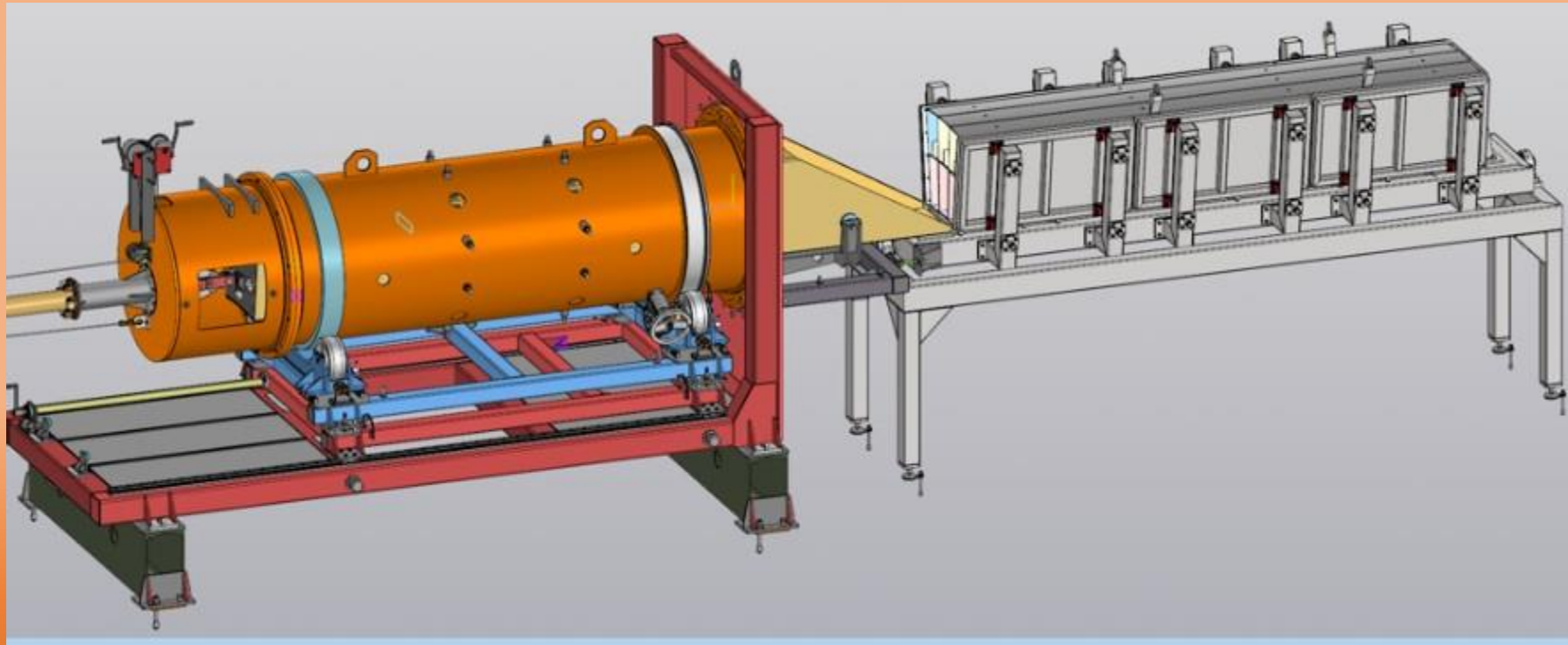
First test half-sector assembling

Mass production of sectors starts

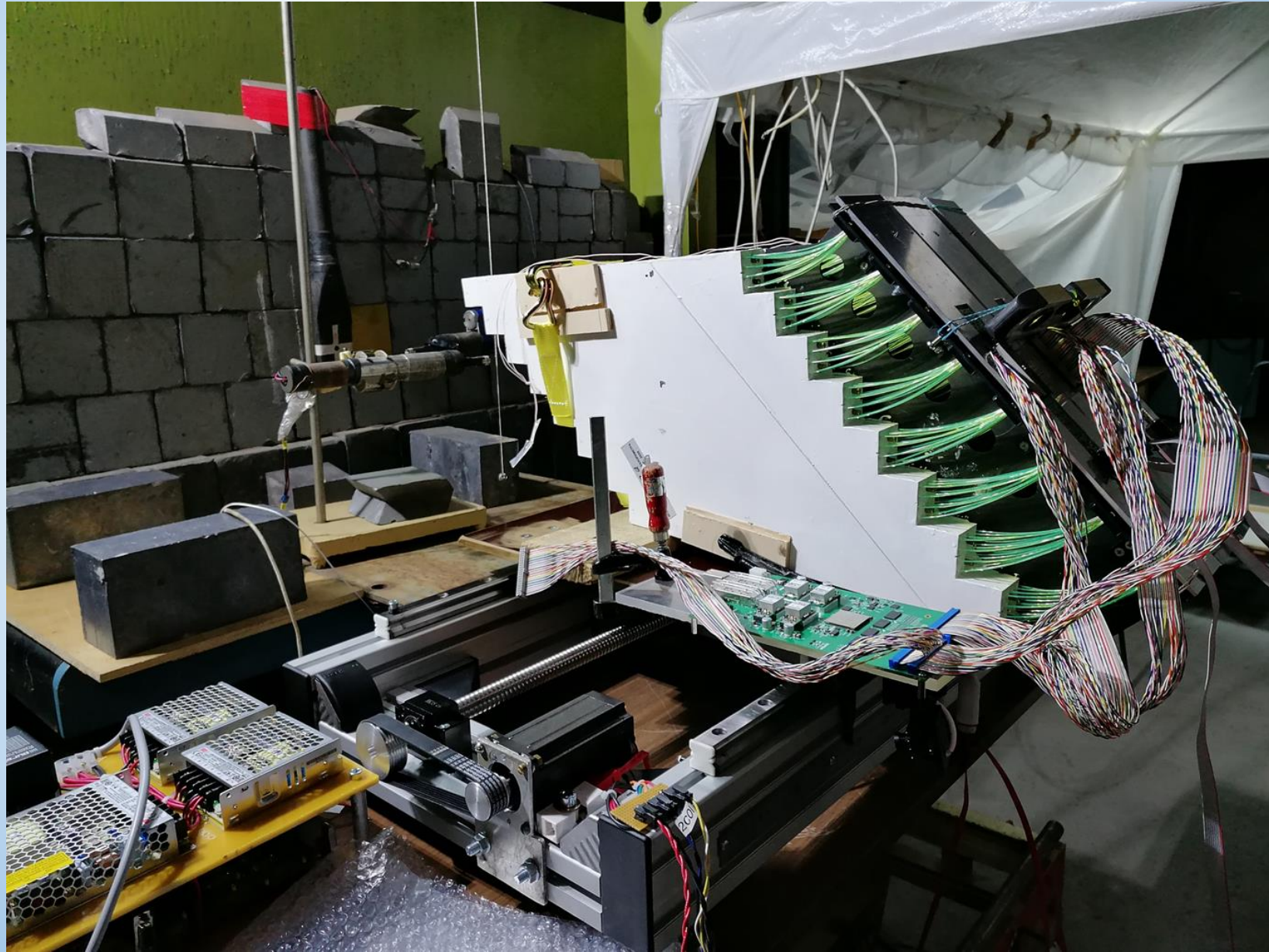
- February
- May
- May
- end of June
- September

Half-sectors installation in the MPD

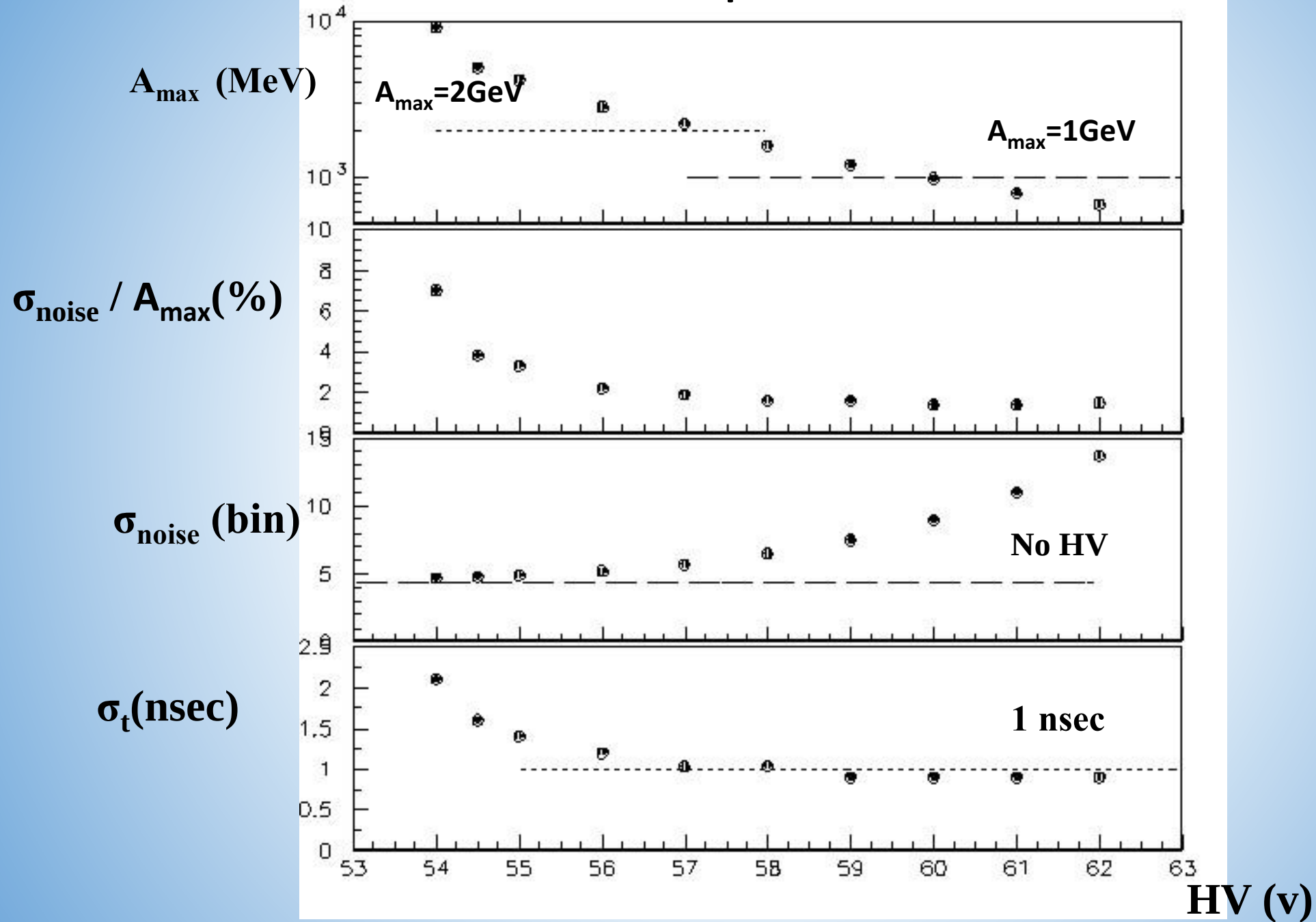




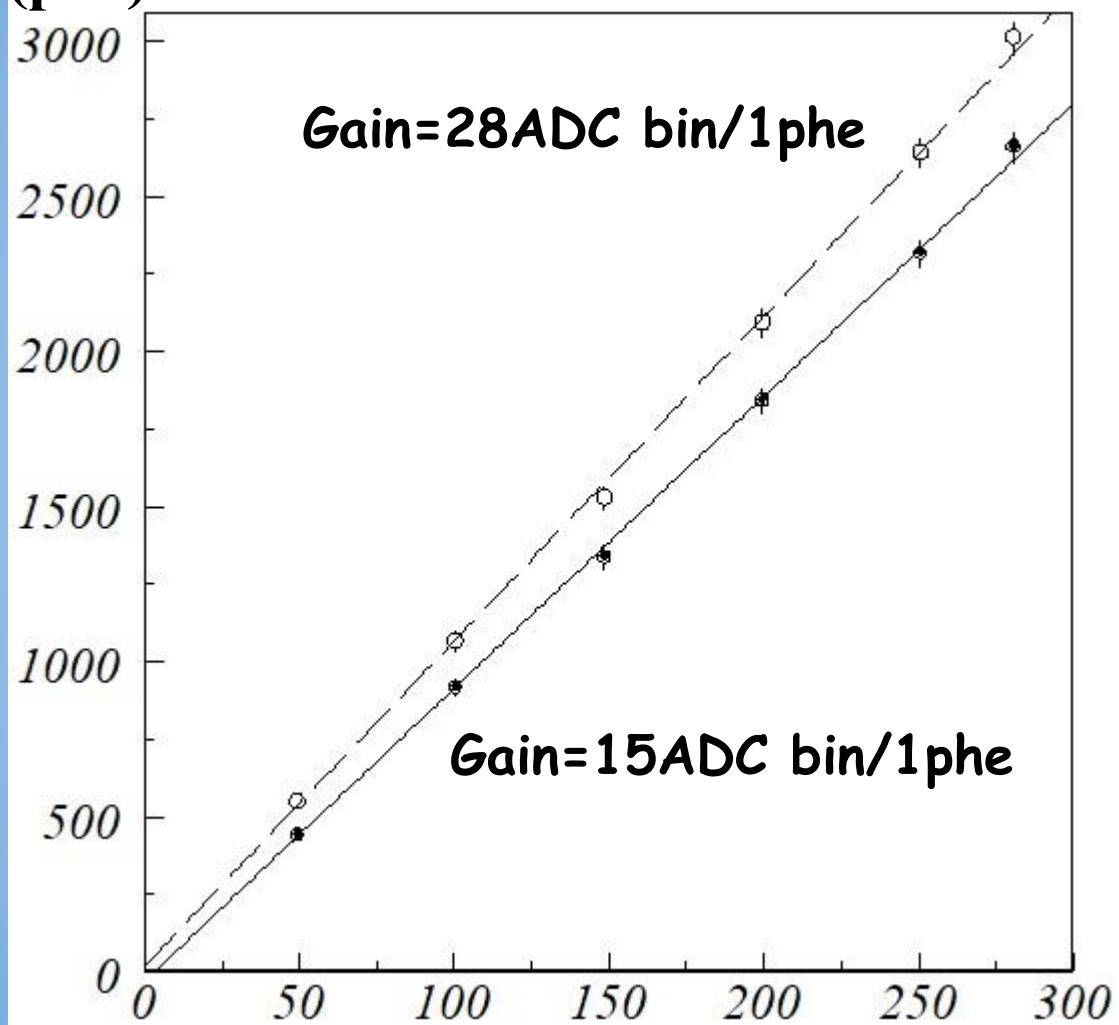
Beam test Troitsk



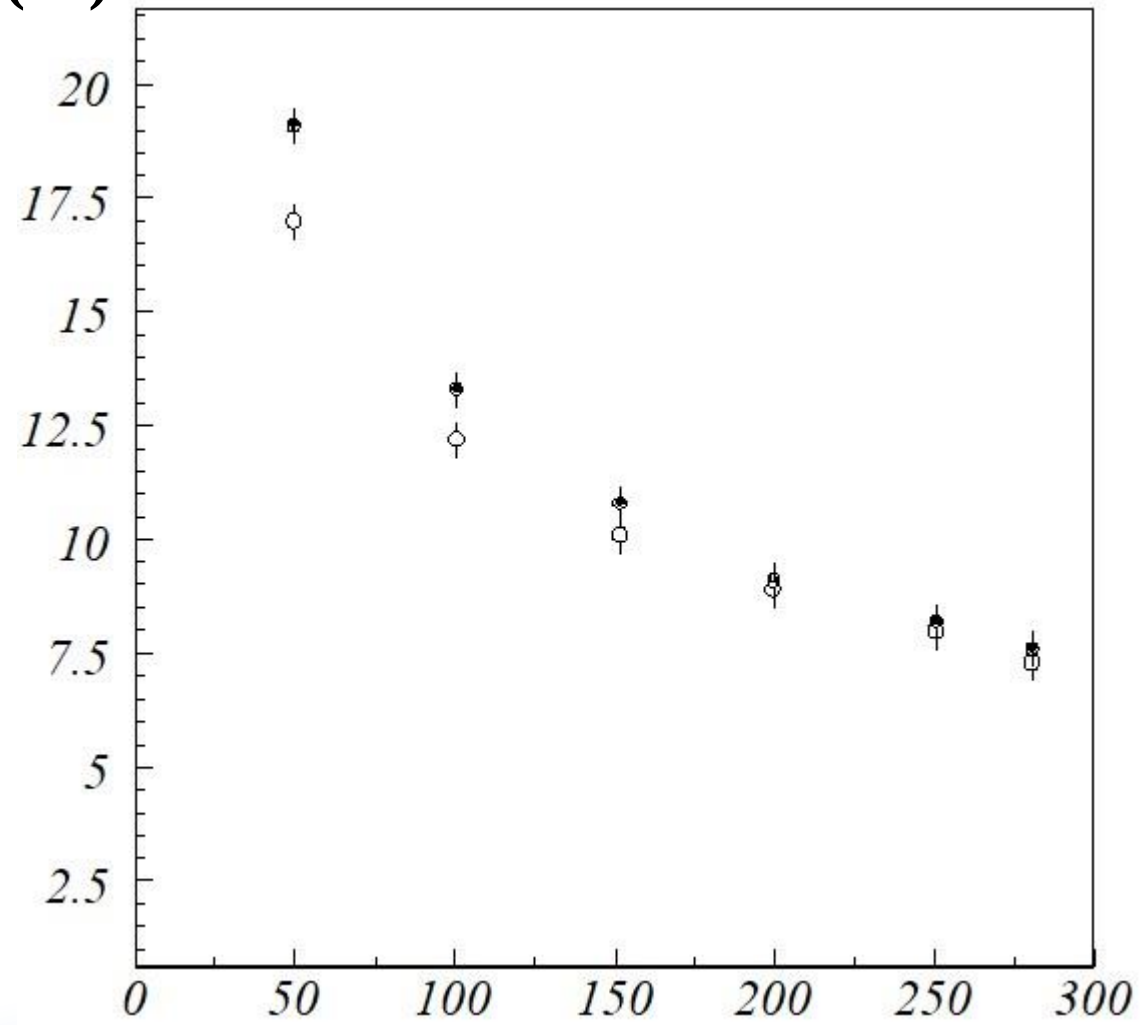
Cosmic μ ~20 MeV



A (phe)



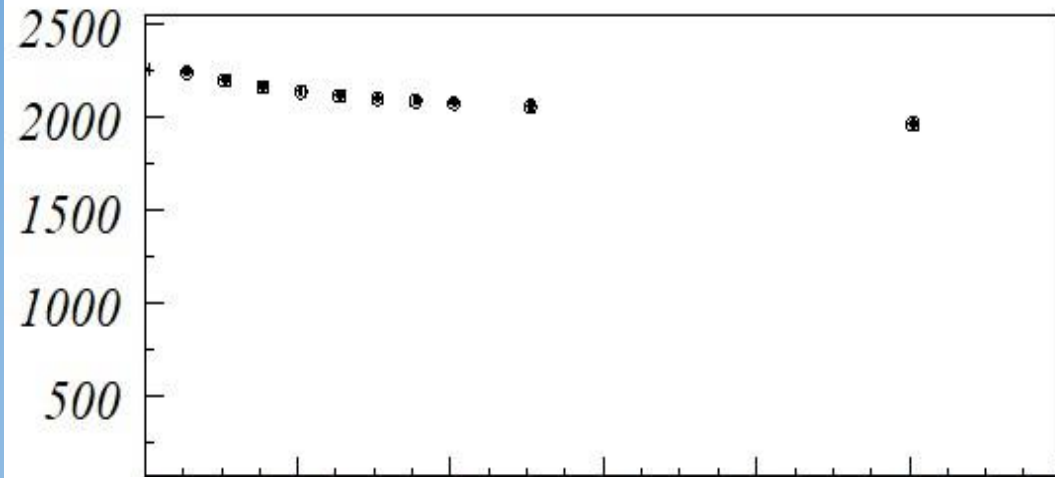
σ_E/A (%)



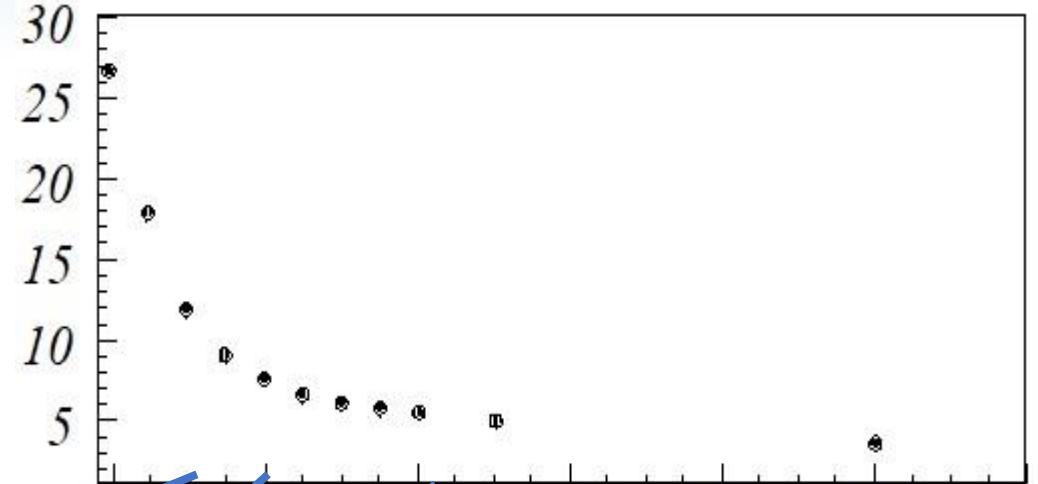
E_e (MeV)

$E_e = 250 \text{ MeV}$

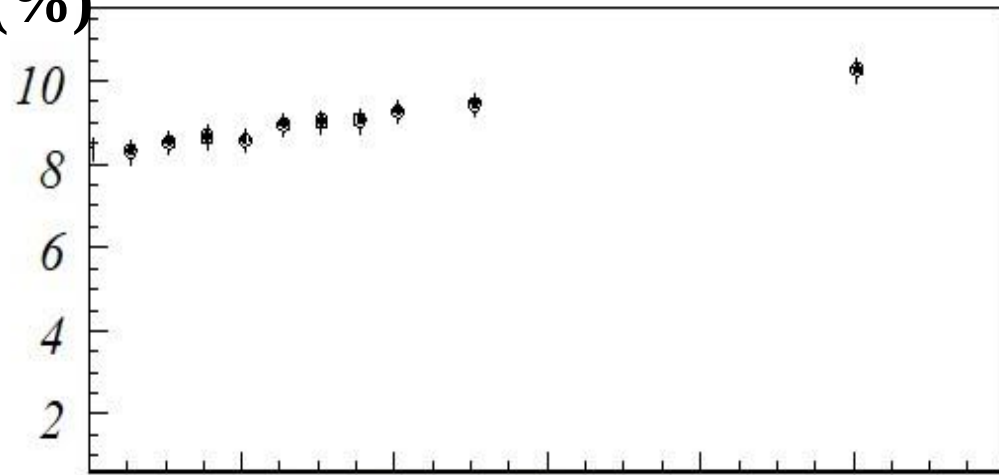
$A \text{ (phe)}$



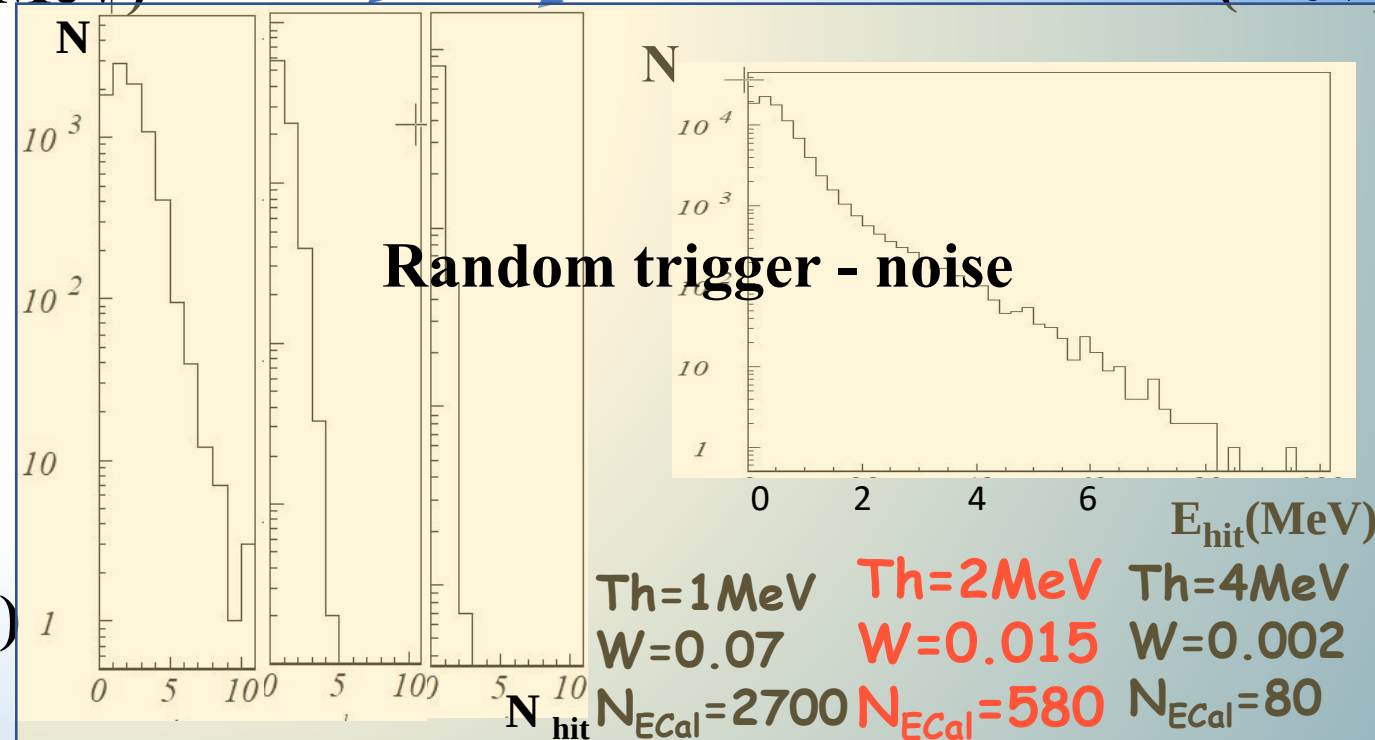
$N_{\text{hit}} / e(250 \text{ MeV})$



$\sigma_E / A \text{ (%)}$



Th (MeV)



Conclusions

**1. Modules mass production is going smoothly,
in accordance with plans.**

Enough modules in stock for the sectors assembling.

**2. Modules calibration will start in a coming days. Estimated
calibration rate is high enough to guaranty smooth sectors assembling**

3. Sectors assembling area is under construction.

Some tools is under development yet, some already in construction.

Test assembling will start in June.

4. Procedure of the sector installation to the MPD is under development

**5. Beam tests are going on to fix parameters of the electronics and to
check proposed calibration procedure**