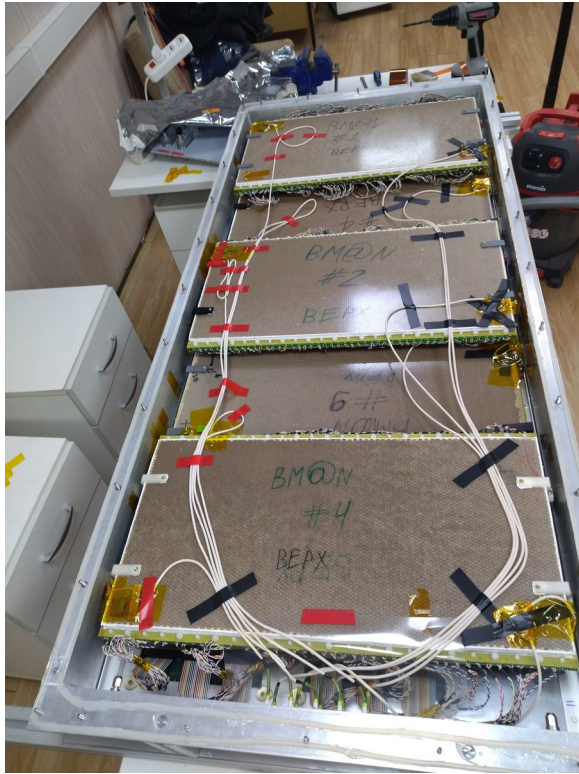


# TOF400 status

Rumyantsev M., Babkin V., Buryakov M., Buzin S.,  
Dulov P., Golovatyuk V., Dmitriev A., Zhavoronkova I.

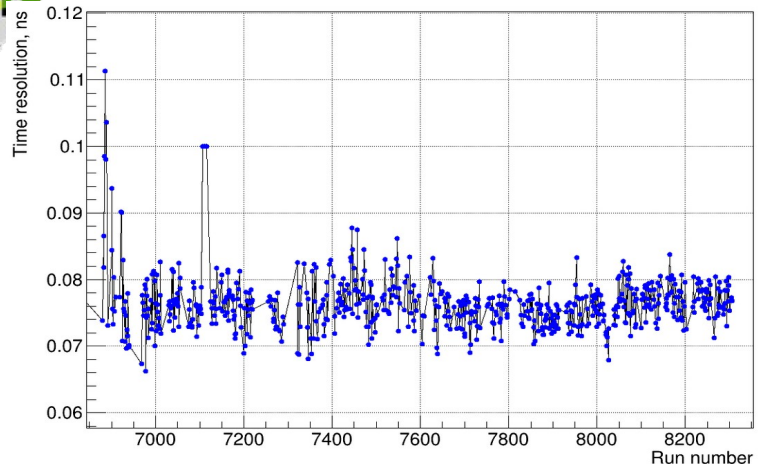


- mRPC detector with active area  $30 \times 60 \text{ cm}^2$ .
- 48 readout strips of  $1 \times 30 \text{ cm}^2$  in one mRPC.
- $90\% \text{C}_2\text{H}_2\text{F}_4 + 5\% \text{SF}_6 + 5\% \text{i-C}_4\text{H}_{10}$
- 11,5 kV working point

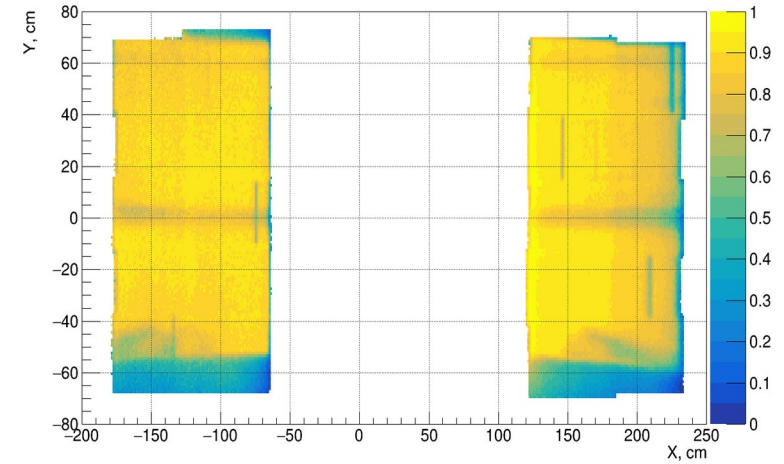


- Two arms of 10 mRPC detectors each.
- Active area  $2 \times 1,1 \times 1,3 \text{ m}^2$
- 960 Readout strips.
- 1920 channel of FEE.

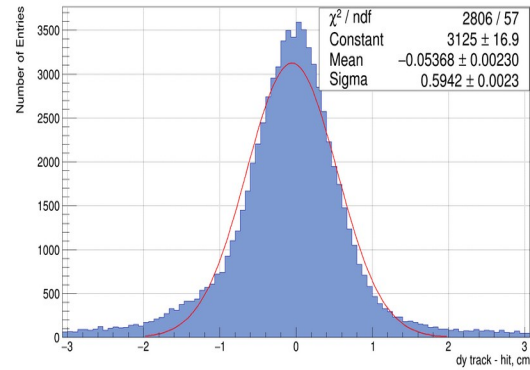
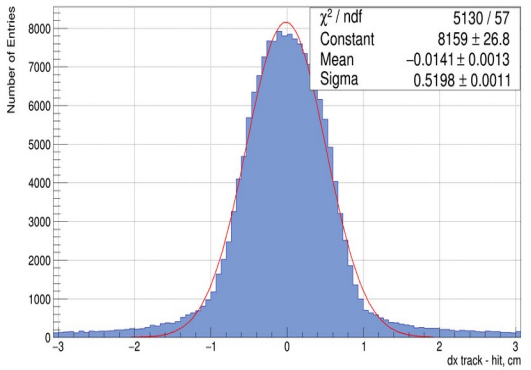
# TOF400 Performance.



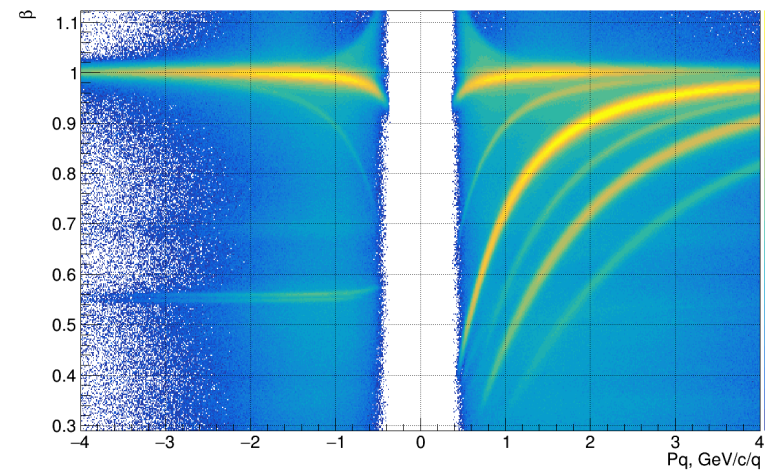
Average time resolution of the full system (T0+TOF400) during data taking



Efficiency relative to Gem tracks. Run 7842-7948

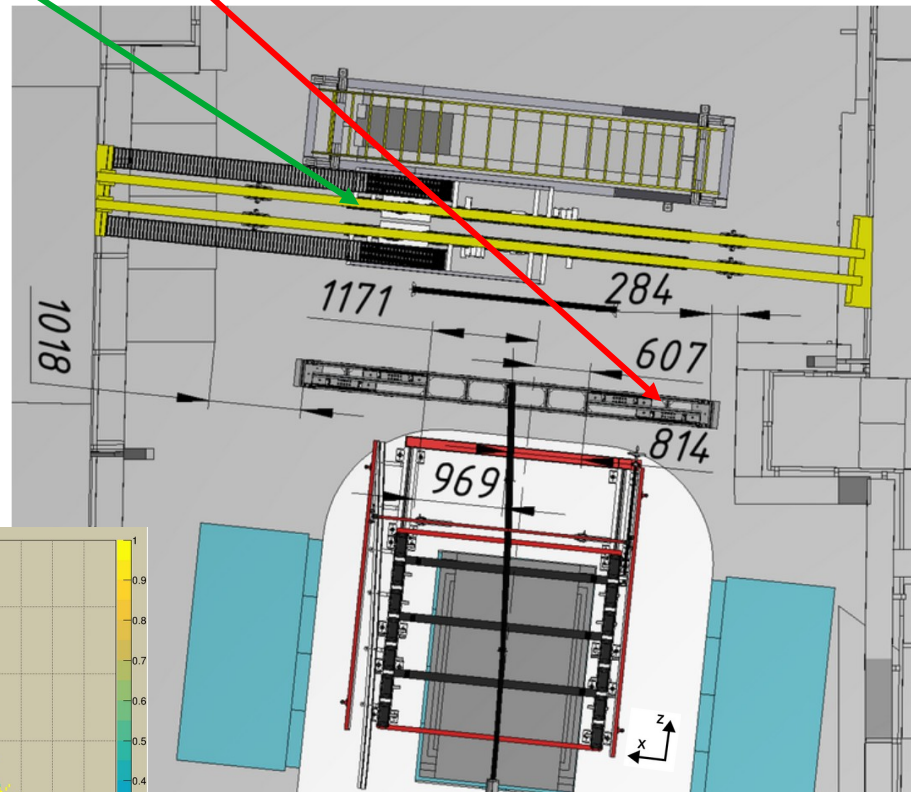
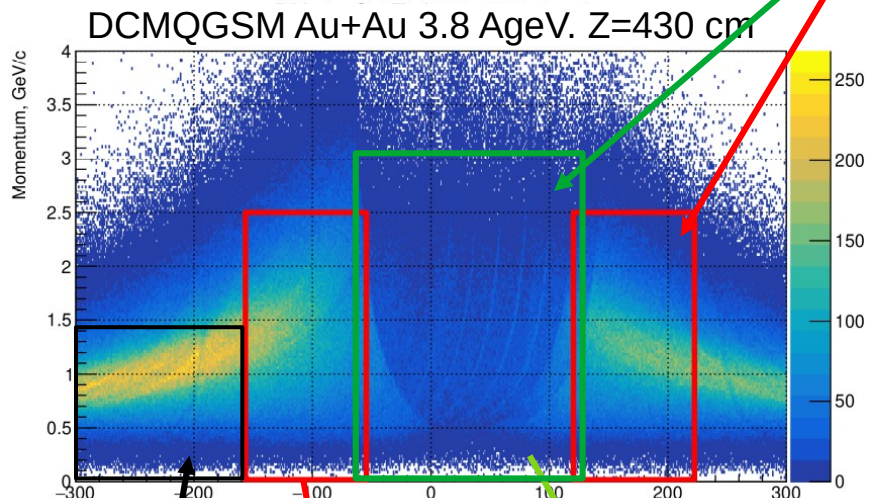


The coordinate resolution:  $\sigma_x(\text{track-hit}) = 5,2 \text{ mm}$ ,  
 $\sigma_y(\text{track-hit}) = 6 \text{ mm}$

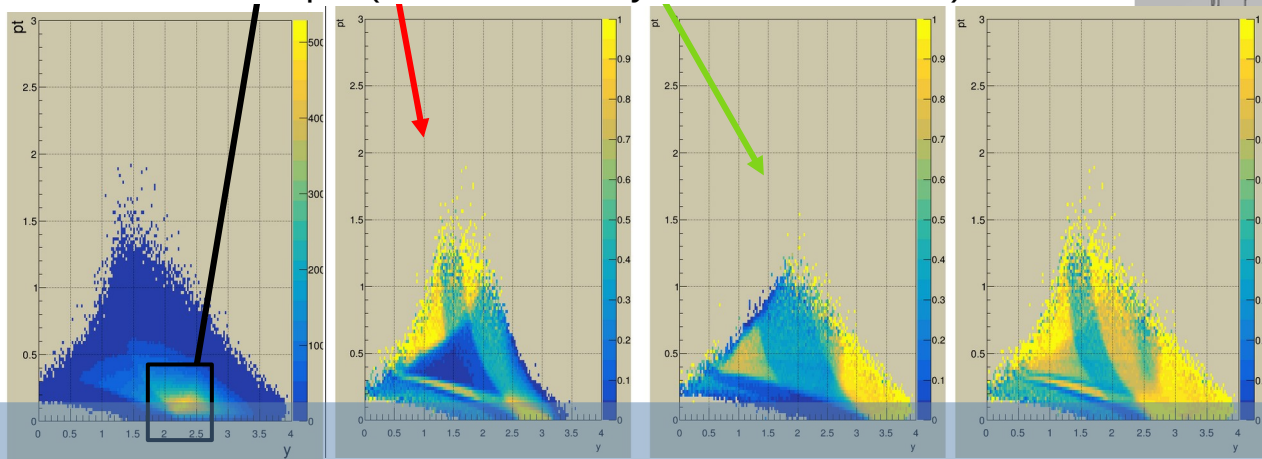


# TOF400 extension.

## Current position of TOF systems



Trackable pi+ (5 hits in track system,  $\geq 3$  in GEM)



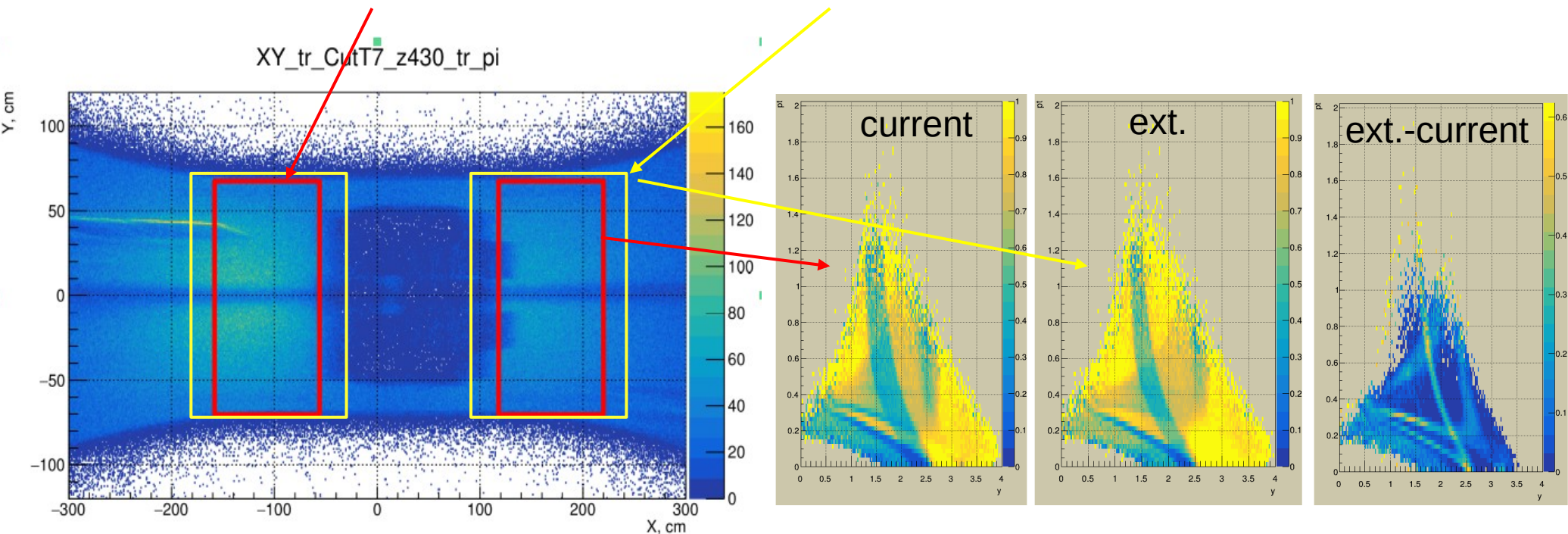
# TOF400 extension.

current configuration:

- 2 x 1.15x1.3 m<sup>2</sup>
- 20 detectors
- 1920 channels of FEE

extended configuration:

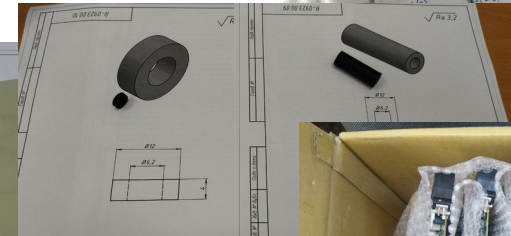
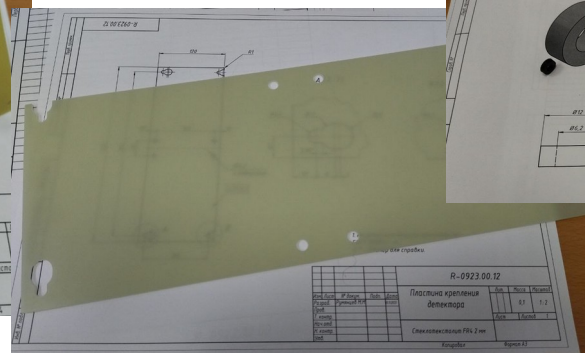
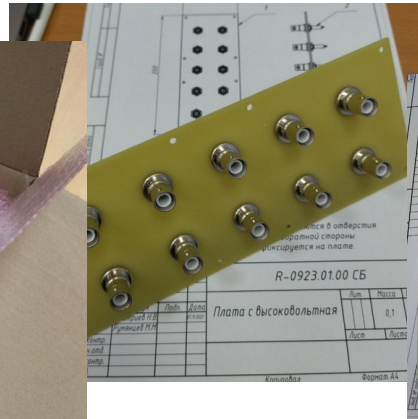
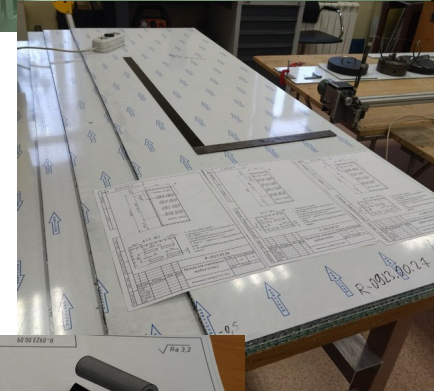
- 2 x 1.7x1.3 m<sup>2</sup>
- 30 detectors
- 2880 channels of FEE



DCMQGSM Au+Au 3.8 AGeV.

# New TOF400 Box Assembling.

	Current system	Extended system	In stock	
Detectors	20	30	30	
Gas box	4	2 (new designe)	2	
FEE	80	120	140	
TDC	28	42	42	
HV	40	60	40+24	
LV	16	24	24	
HV cable	40	60	60	
LV cable	8	12	12	
HV distributor	-	10	0	In designe
Signal cable	40	60	60	



## Conclusion.

	October					November				December	
	30/10	7/10	14/10	21/10	28/10	4/11	11/11	18/11	25/11	2/12	9/12
<b>HoneyComb cutting</b>	■	■	■	■							
<b>HoneyComb gluing</b>			■	■	■	■					
<b>Box assembling</b>		■	■	■	■	■	■	■			
<b>Detector Instalation</b>							■	■	■		
<b>Gas leak check</b>									■	■	
<b>Instalation on BM@N arrea</b>											■

- The TOF400 is well-functioning and stable system.
- All materials are available to start assembling the extended version of the TOF400 system.
- The new TOF boxes will be installed on BM@N in mid-december.

Thank You for attention.