

Forward-Tagger Tracker

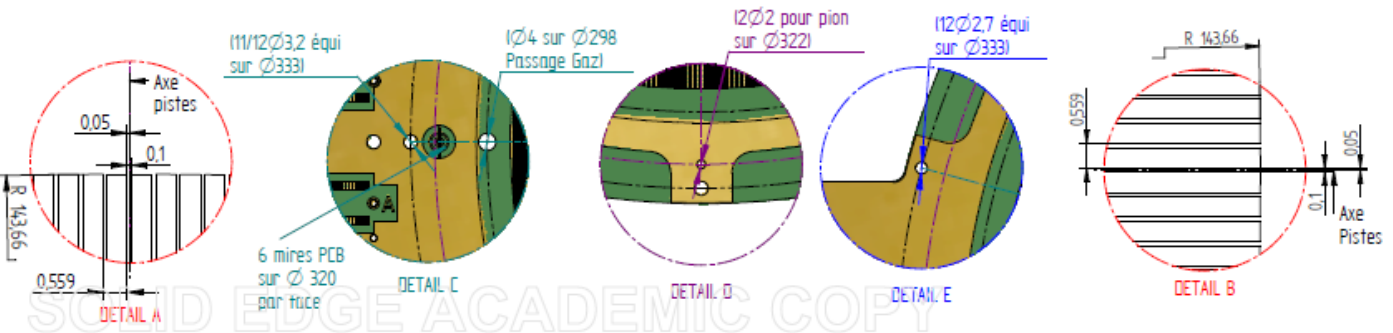
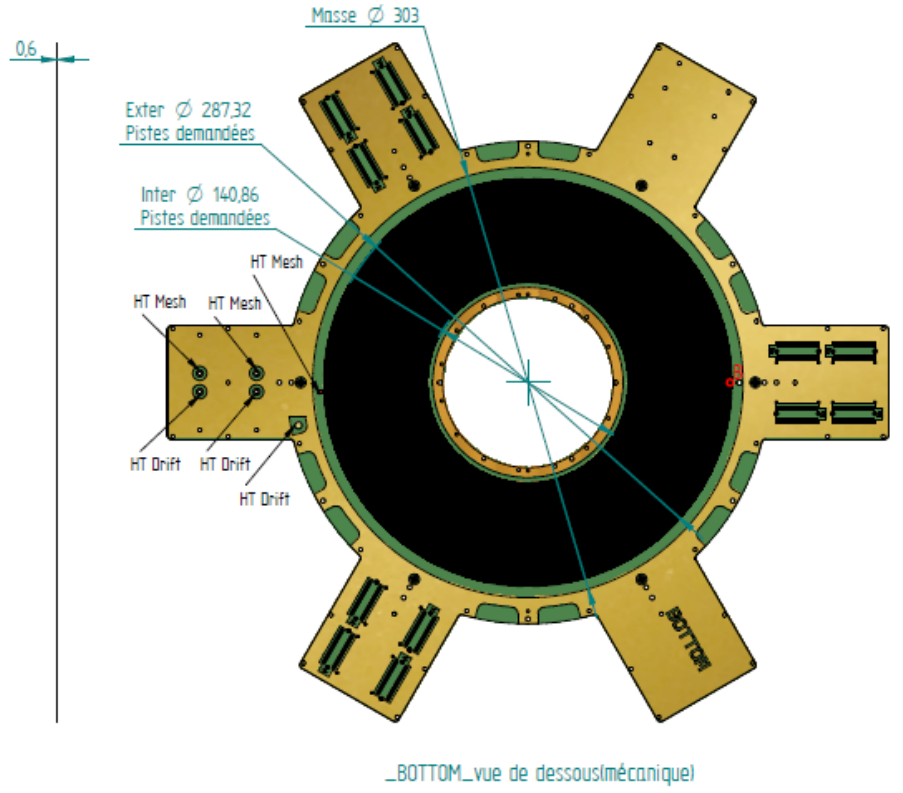
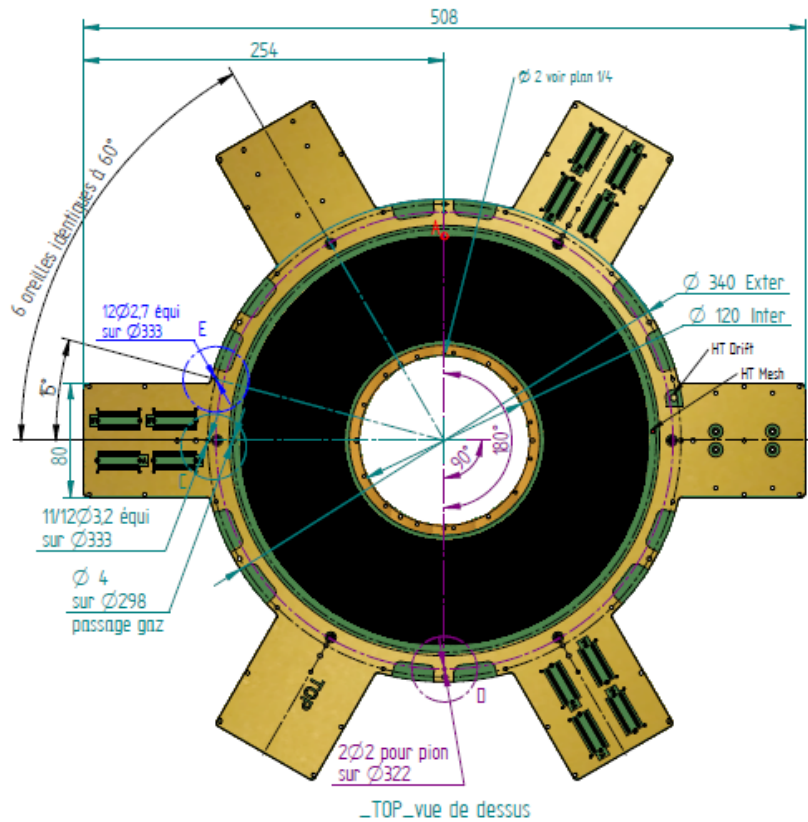
– Status & Plan –

F. Sabatié

Slides from D. Attié, S. Procureur

- Scale-one detector prototype have been tested and validated
- Resistive strip detector option has been selected for better integration (to be manufacture easily and to optimize the cost):
 - Smaller size PCB: $540 \times 500 \text{ mm}^2$ (detector prototype size: $582 \times 546 \text{ mm}^2$)
 - 24 connectors (1536 strips) instead of 30 (1736 strips) per detector
 - Electronics: 6 FEU fully operated
 - Pitch of readout strip: $500 \text{ }\mu\text{m}$ \rightarrow $560 \text{ }\mu\text{m}$
- Total cost : 80 k€ (110 k\$)

Final Detector Concept

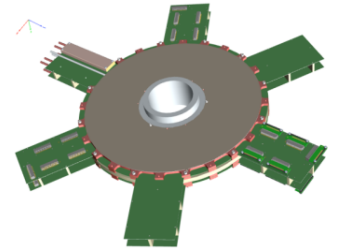


Doc. No.	6 FTAG - DM - 2140 102	Etat:	RA
Date	Jan 12	Elab:	RA
Autr	Fig. 3/2	Appr:	RA
Document: 6 FTAG - DM - 2140 102 Titre: CEA / SACLAY / IRFU / SEV Description: PCB support pour pistes pour 0,559 mm			

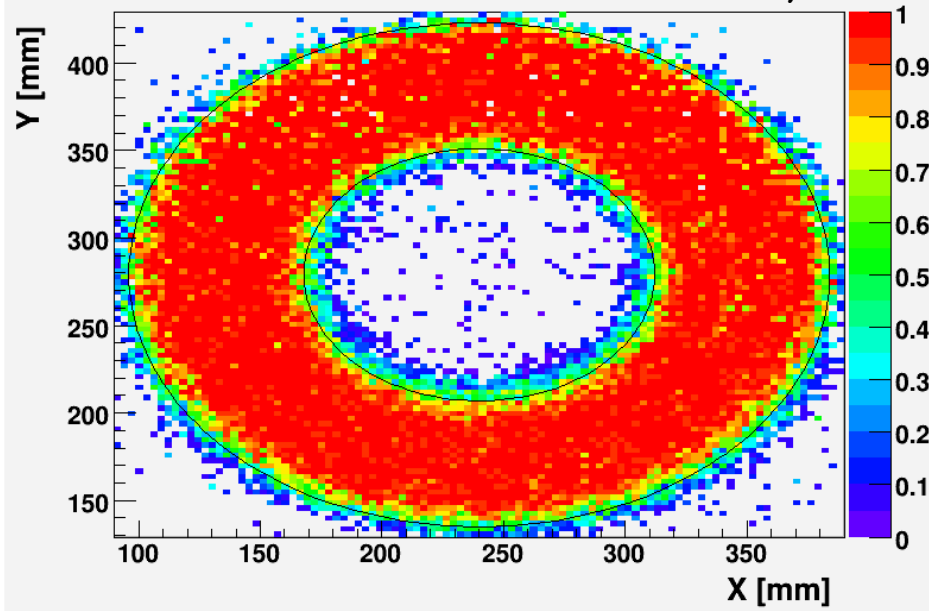
- Mechanical drawings are in progress
- PCB layout should be ready after 2014 summer break
- Production of the PCBs (2+1 spare) in October 2014
- Detector production: double-sided resistive layer+Micromegas bulks by the end of the year
- Electronics, mechanics and other components will be manufactured in the meantime
- Delivery date: end of February 2015

Characterization of proto with final electronics (DREAM) and final cables (Hitachi)

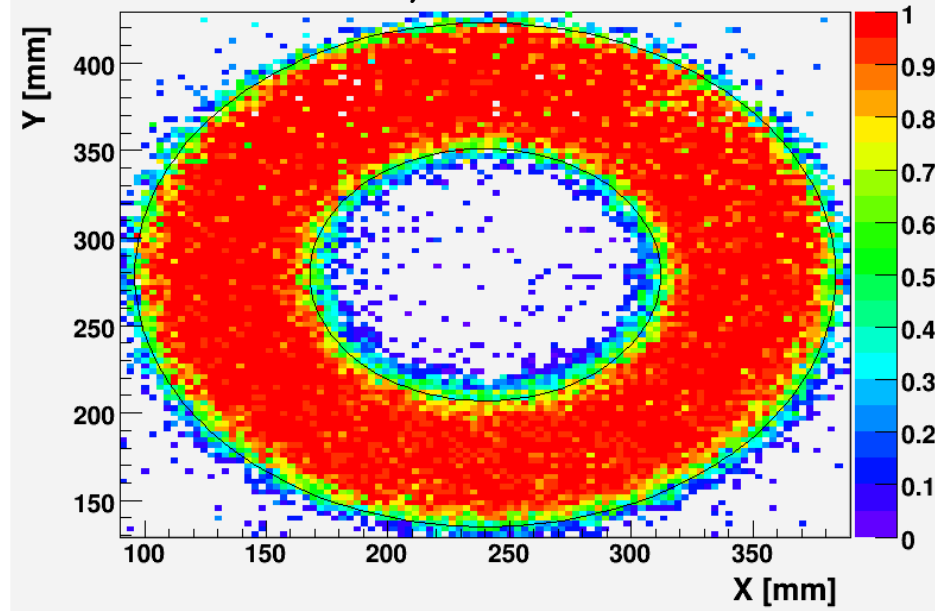
⇒ 1st time that the 2 sides are tested simultaneously



2D efficiency with cosmic bench @ Saclay

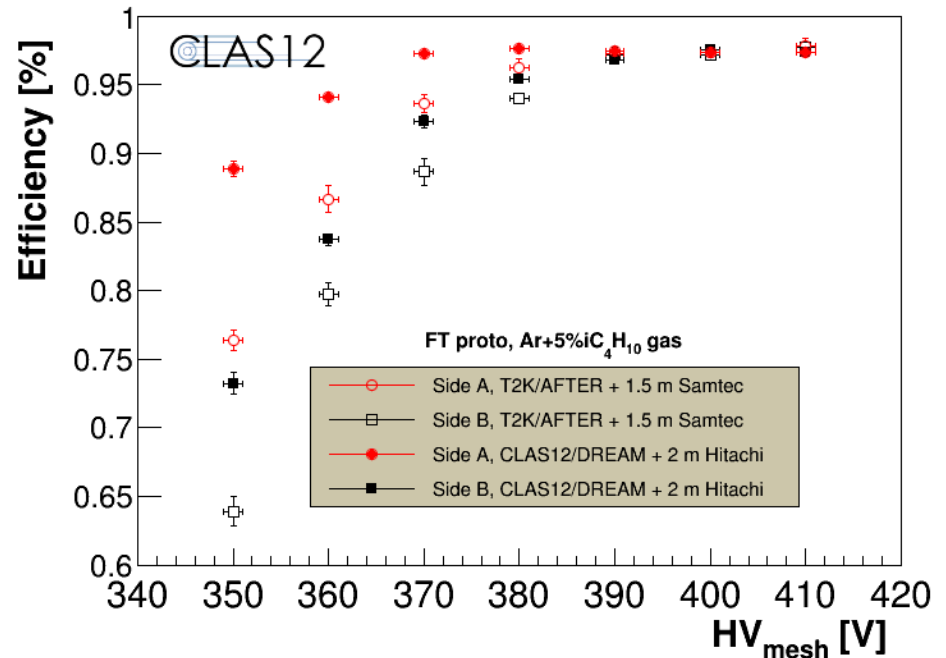
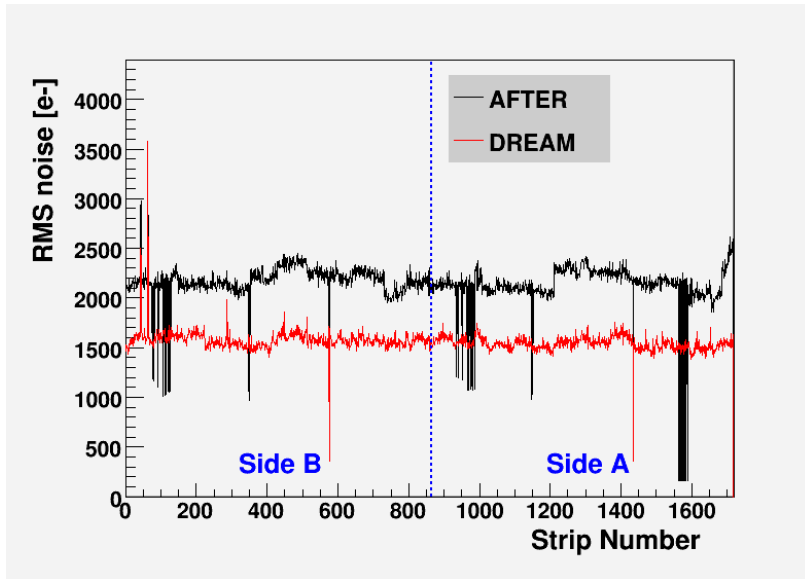


Side A



Side B

Checked noise level and efficiency plateau compared to previous tests with AFTER



⇒ No interference between the 2 sides

⇒ Noise lower and more stable than with AFTER

⇒ Full efficiency at lower gain (because of better S/N), but size of effect not completely understood

⇒ Side A has larger gain, probably because of smaller gap during double bulk process