

# Status of the Padme Target

**8 Mar 2018**

**G. Chiodini on behalf of Lecce PADME group**

**R. Assiro, G. Chiodini, P. Creti, G. Fiore,  
I. Oceano, F. Oliva and V. Scherini  
INFN Lecce**

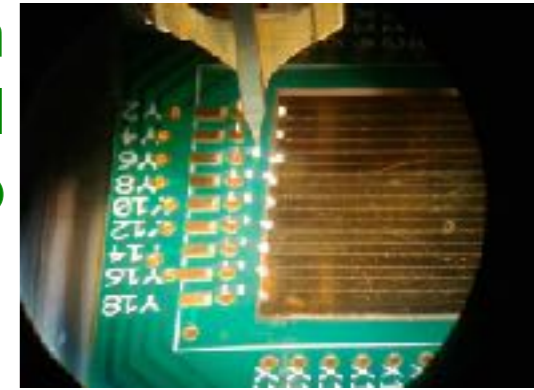
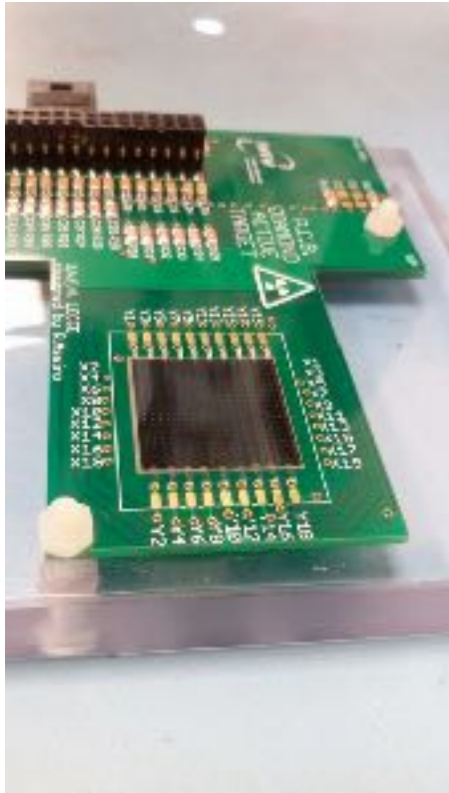
**A.P. Caricato, M. Corradi, C. Pinto, M. Martino, S. Spagnolo  
INFN Lecce and Università del Salento**

# Outlook

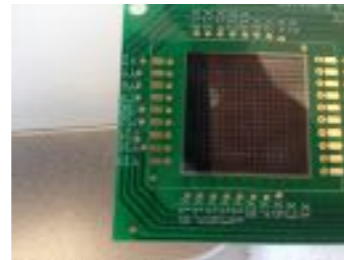
- Detectors
- Electronics
- Mechanics
- Commissioning
- Conclusions

# DETECTORS

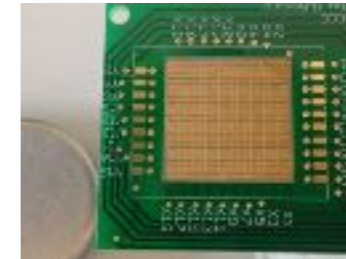
2 sensors (one with graphitic strips and one with AuCr strips) are mechanically glued, electrically glued on the back-end and wirebonded on the front-end to the inner board.



Graphite



Cr-Au



2 sensors (one with graphitic strips and one with AuCr strips) ready for mounting on two new inner boards.

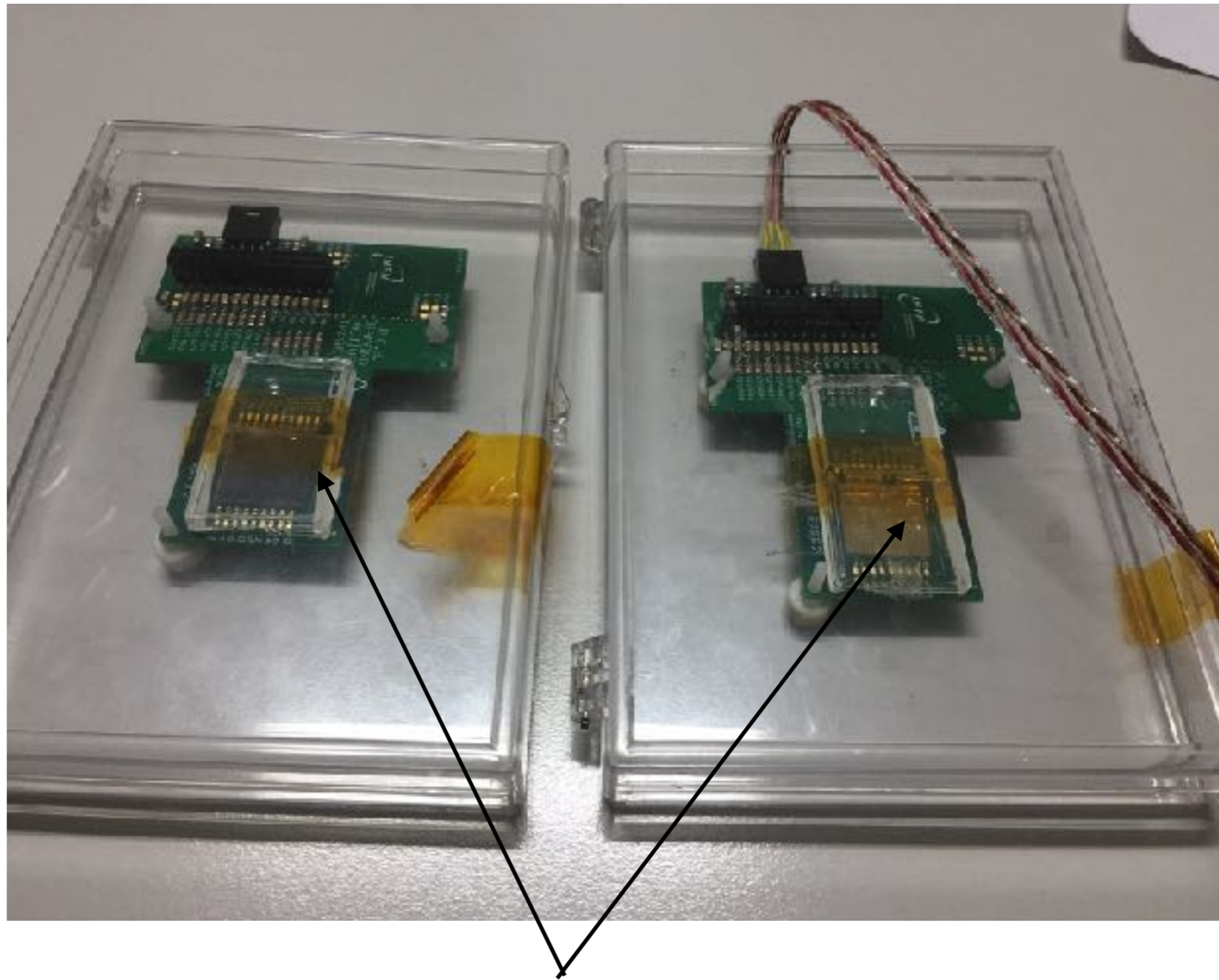
Back-end contacts verified one by one: no shorts and contact resistance= 0.1-1 Ohm

Both detectors hold the High Voltage and IV curves measured: about +/-50nA at +/-150 V

**NO radioactive source test done up to now because the noise after the HV connection make difficult to work in self-trigger mode.**

**We aspect better conditions in the final configuraton.**

# Detectors in protection box



Wire bonding and thin sensor protection on both sides

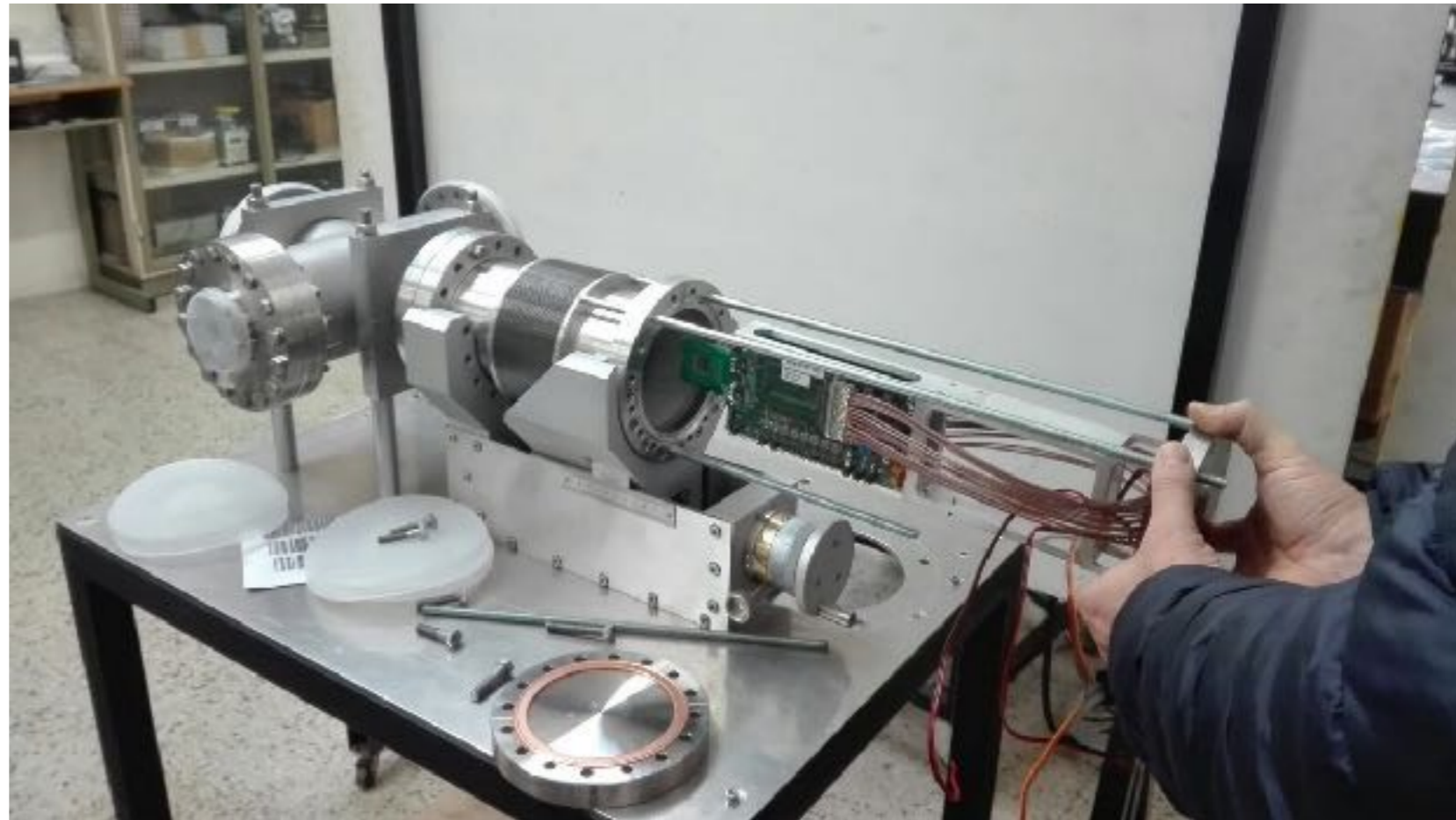


# ACTIVE TARGET MECHANICAL INSERTION

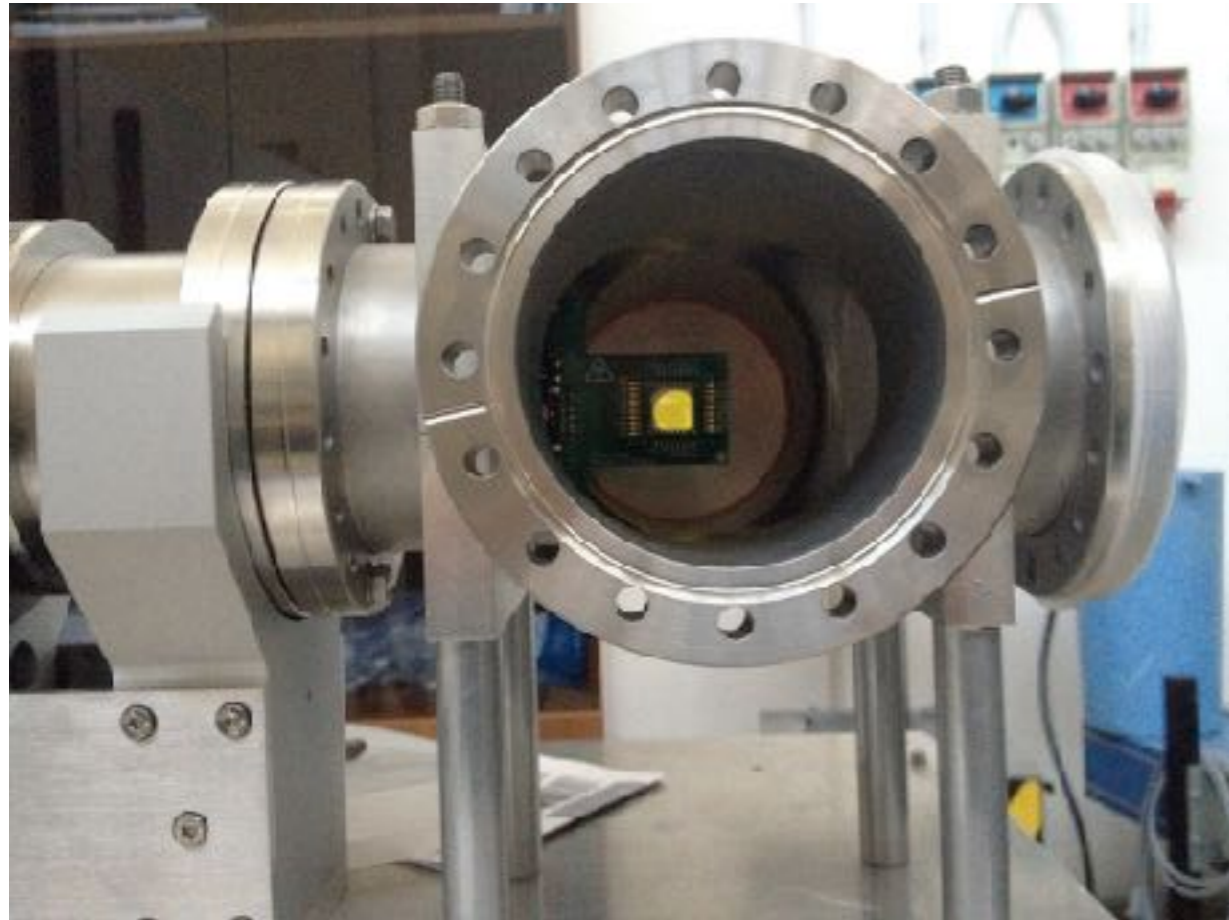
Target mechanics ready  
and screwed on the  
vacuum flange.



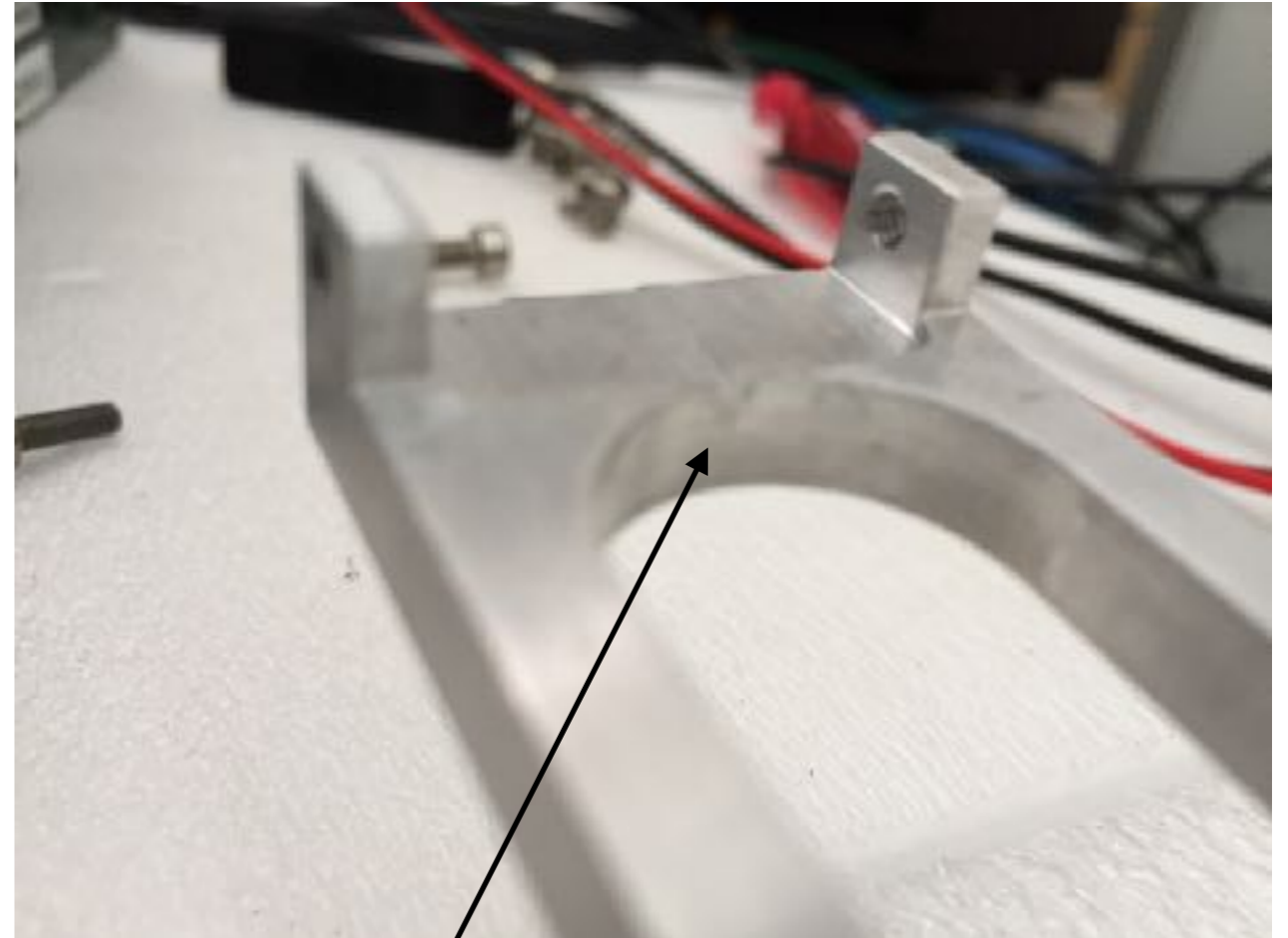
Mechanical insertion with  
provisional threaded bars removed  
after target insertion.



# ACTIVE TARGET MECHANICAL ALIGNMENT



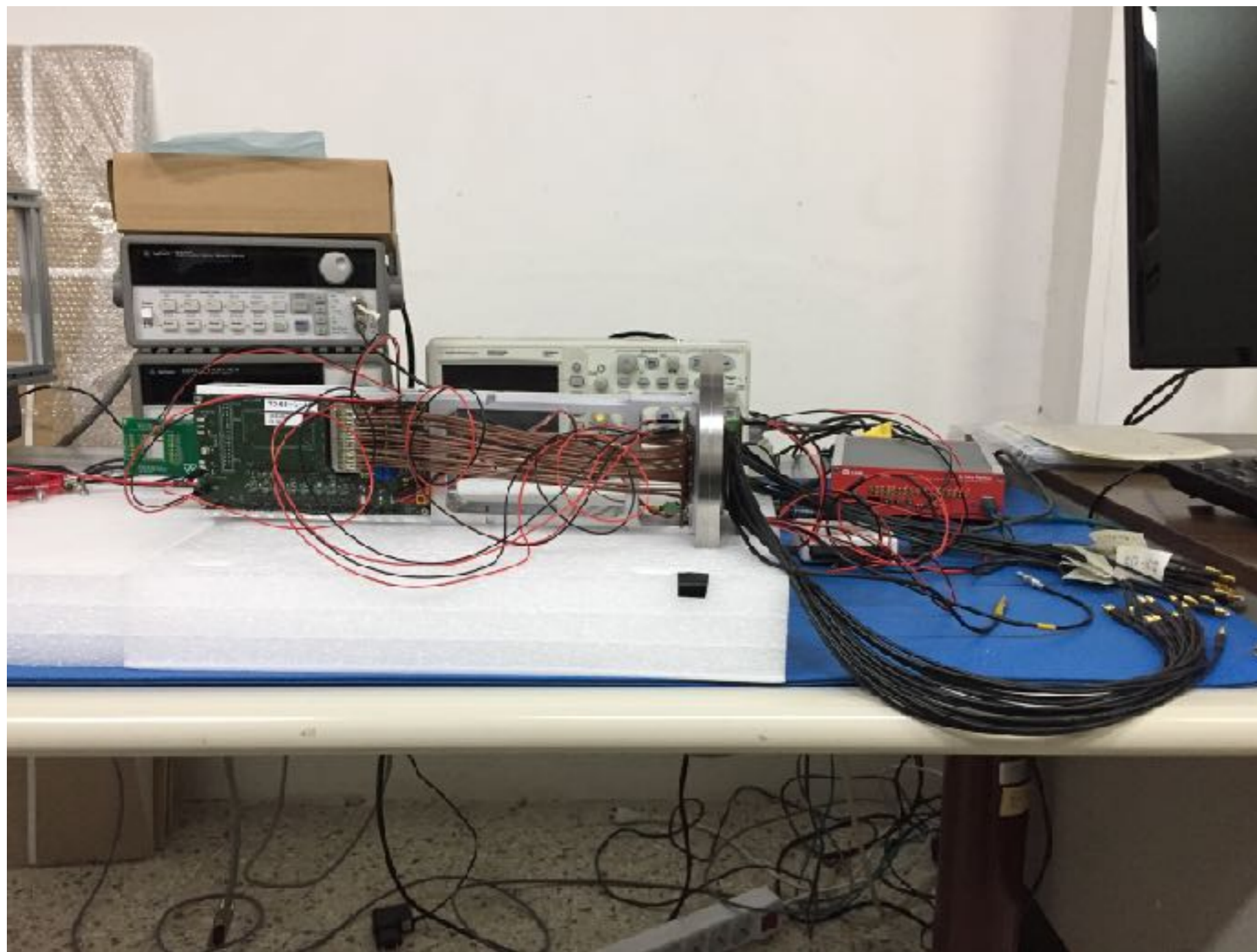
**Final survey method under development**



**Bottom aluminium slit in aluminium rim to hold the inner board in position**



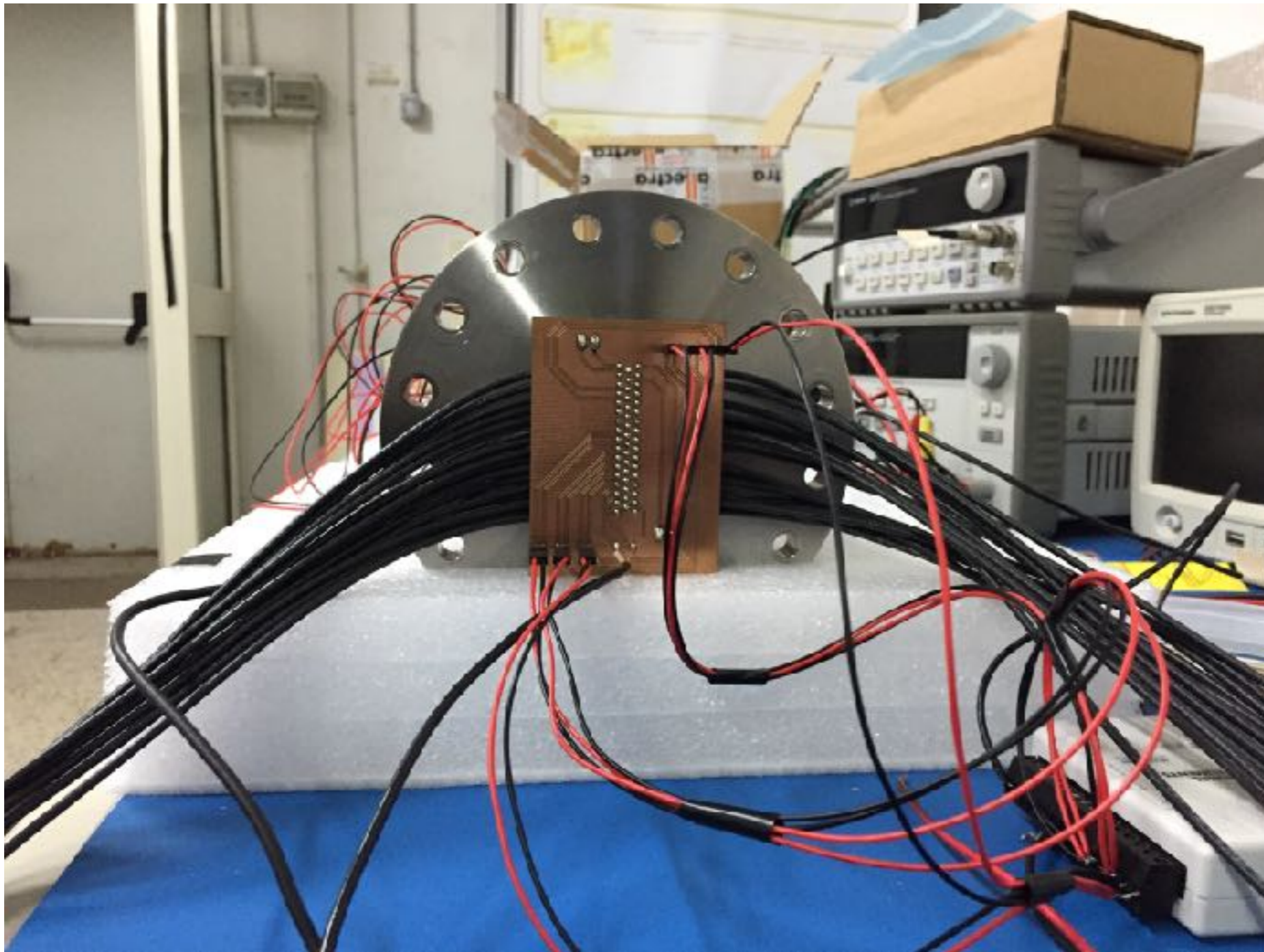
# Active target under bench test



- Output cables:
- 50 cm long
  - mcx connectors
  - OK for PADME digitizer?

Active target fully stuffed - Cable routing fine but shorter service cable needed for the envelope

# Feed-throw flange





# Momentary active target table



Table height ~ 90 cm  
Collar height ~ 25 cm

G.CHIODINI



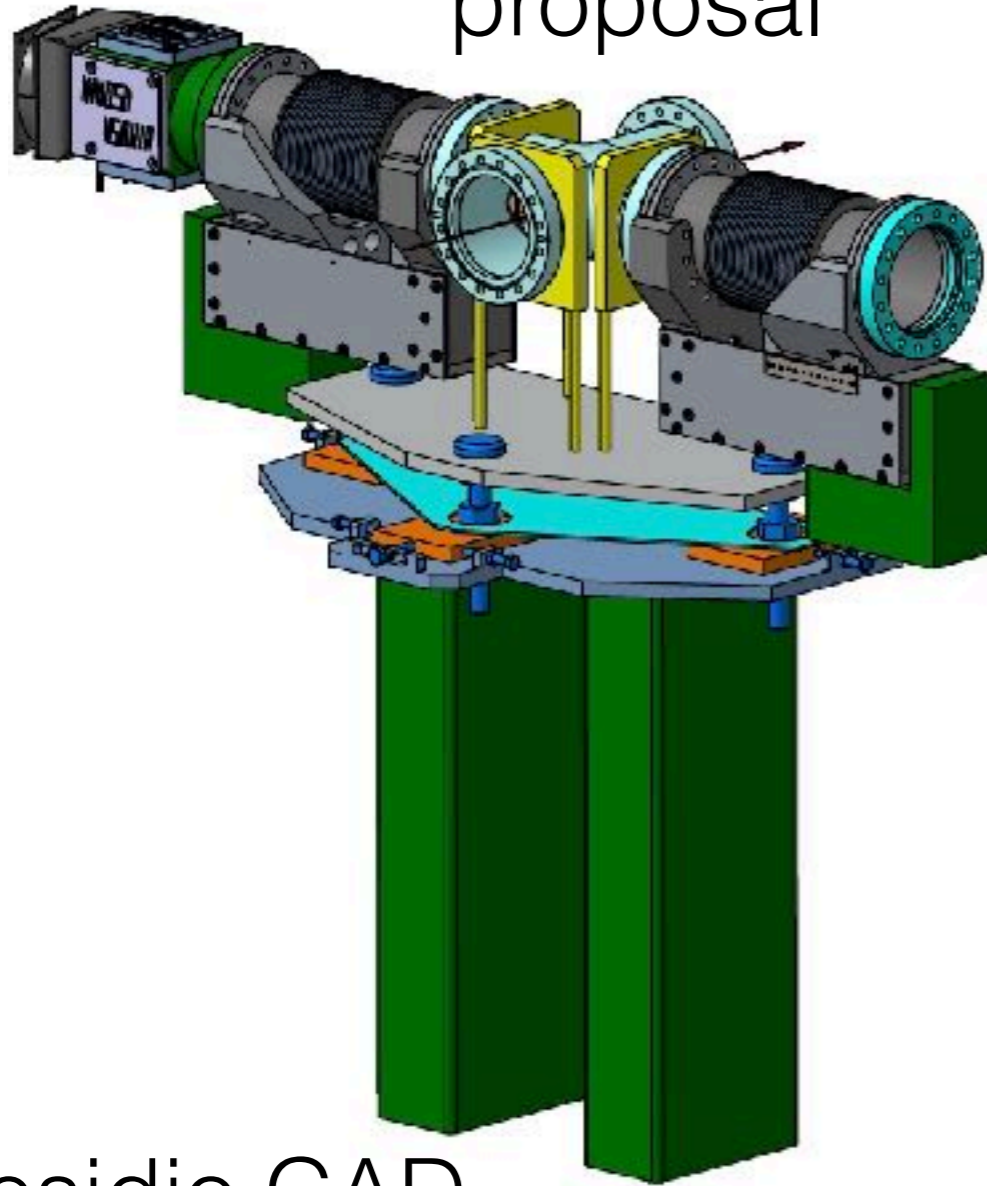
50 cm long adjustable feet

9 / 11

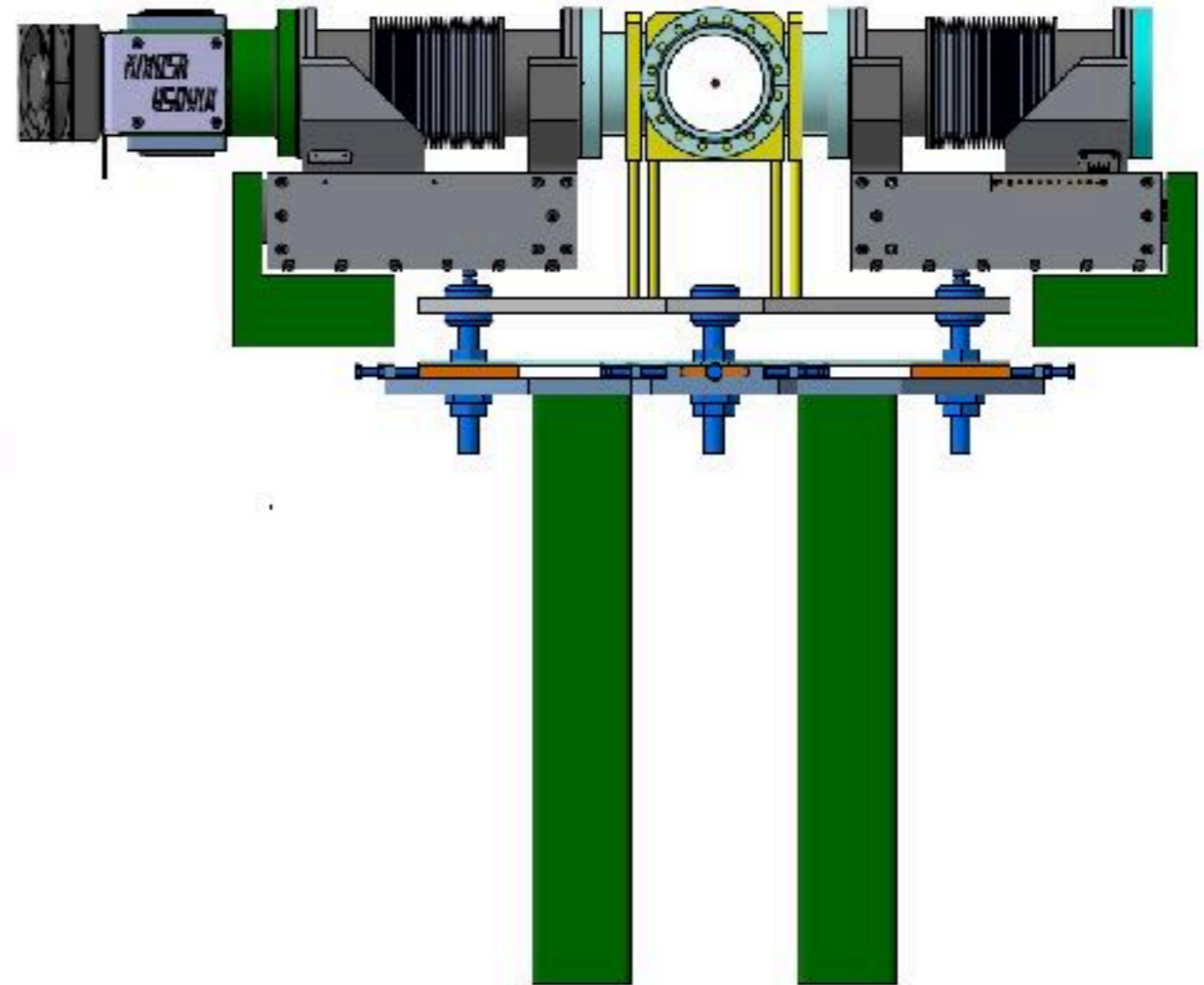
PADME ACTIVE TARGET - 8 Mar 2018

# Final active target table

Cesidio  
proposal



Cesidio CAD  
design



TARGET & MIMOSA SUPPORT  
PLATFORM - UPPER PART

# Conclusion

- Ready to plan for commissioning or move to BTF
- Calibration and source test not yet done
- Final noise to be established with HV connections
- Final mechanical table still to be finalised and acquired

See Federica Talks “DCS and DAQ active target in Lecce” for active target instrumentation commissioning