

# First TPB coating test and measurements

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03/07/2017 Light Det. Sys. Meeting

# Evaporation 1

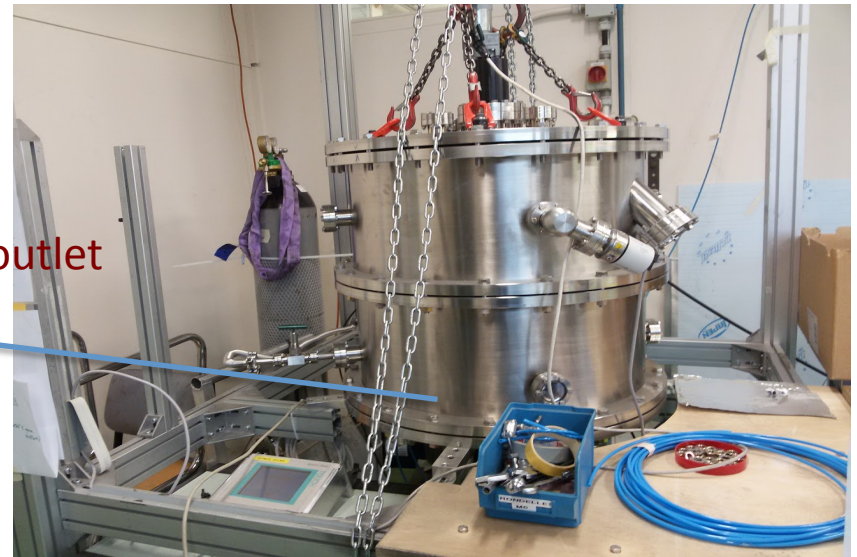
- Restore evaporation system and check functionality:
  - Vacuum tightness, vacuum pumps
  - Cristal “evaporation” sensor
  - Heater/temperature sensors
- Evaporation on Mylar foils on PMT mockup



# Evaporation



TPB evaporator outlet

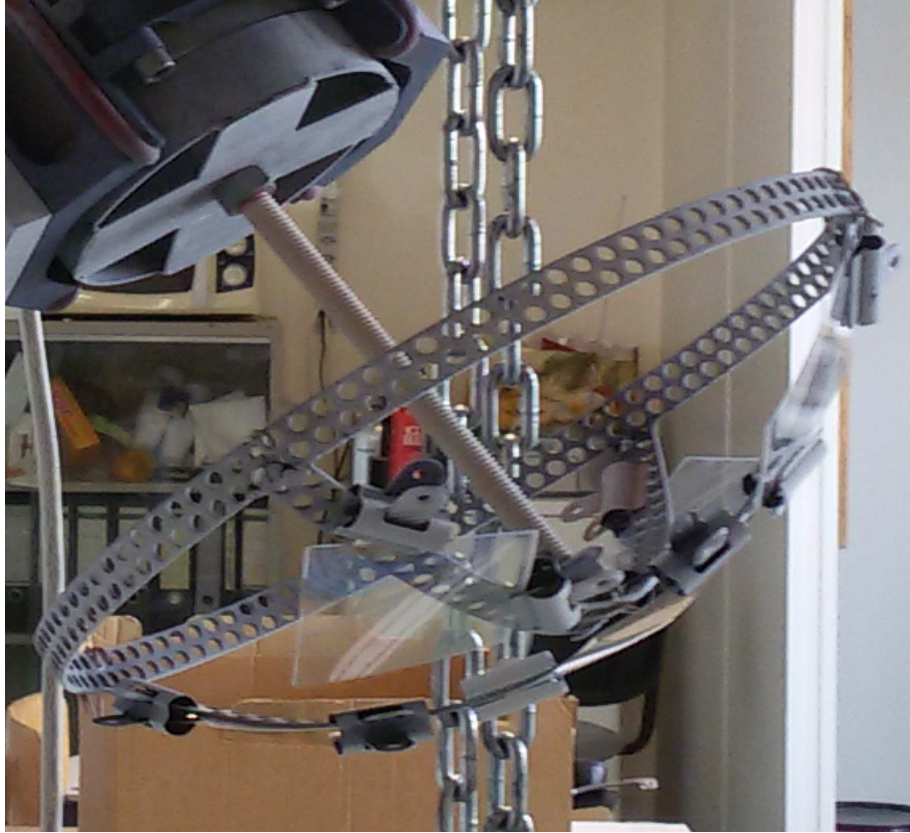


Cristal sensor: measure deposition rate of TPB. Used to checked that all TPB is evaporated

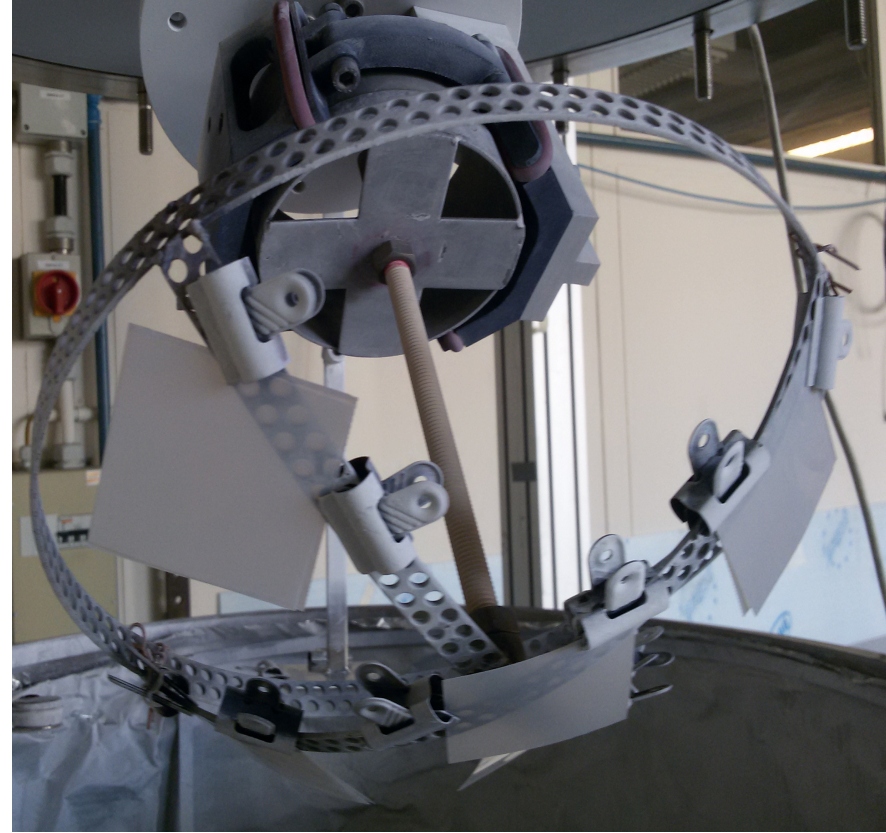
Vacuum measurement sensor.  
Two pumps, 1 turbo pump.



# Evaporation 1



Before



After

# Evaporation 2

- Measure coating uniformity along the PMT surface
- Use glass cylinders samples mounted on 3D printed mockup



Longer vacuum pumping needed first likely due to plastic outgassing

# Evaporation 2



Before



After

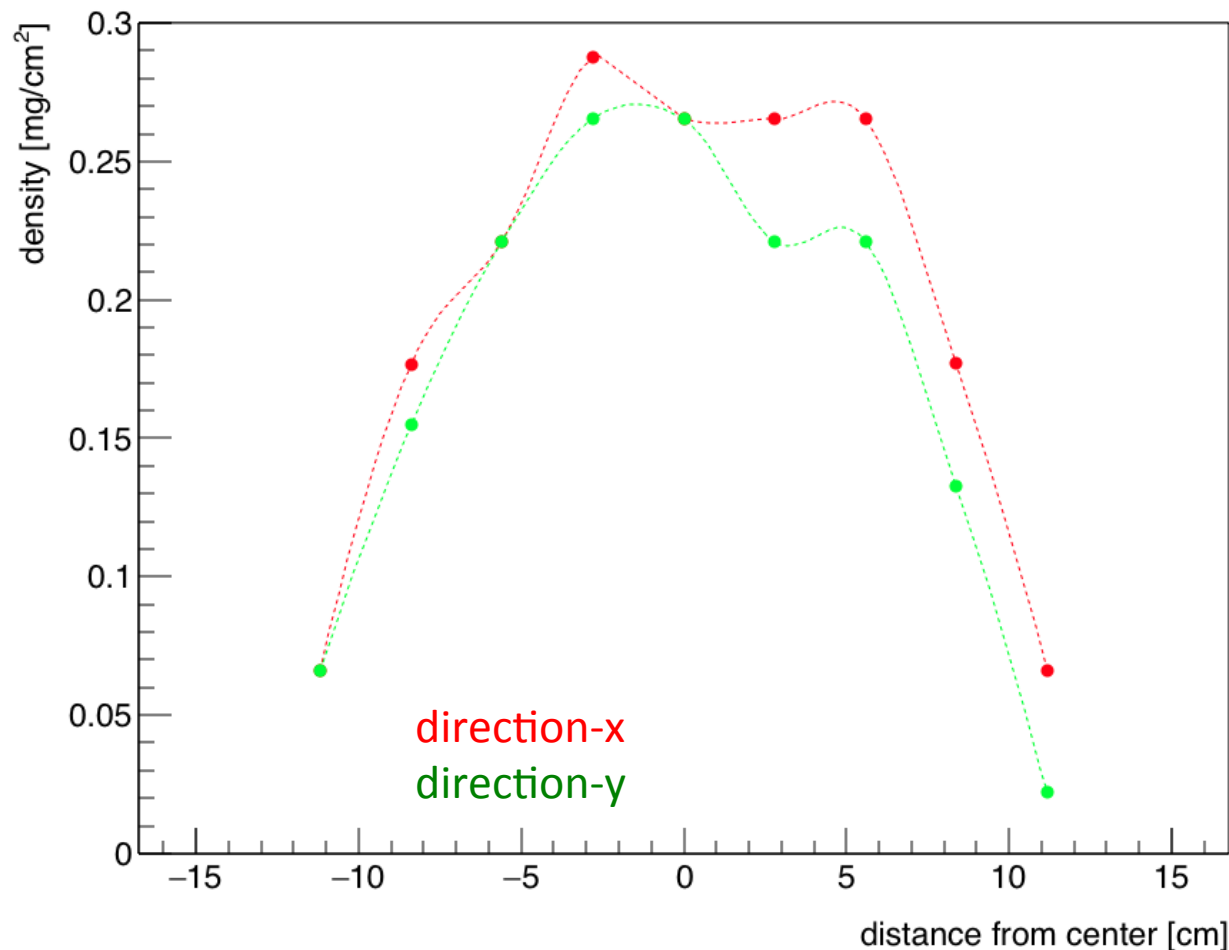
# Evaporation 2

TPB density along the PMT surface

TPB evaporated: 0.8 g



By weighting samples before/after the coating

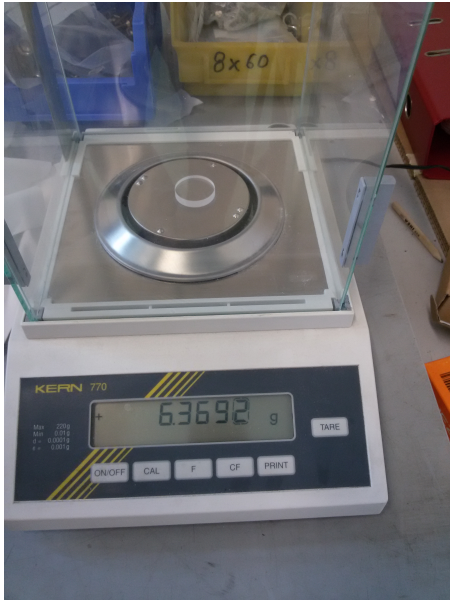


Similar values obtained with Mylar foils (placed in the center of the PMT)

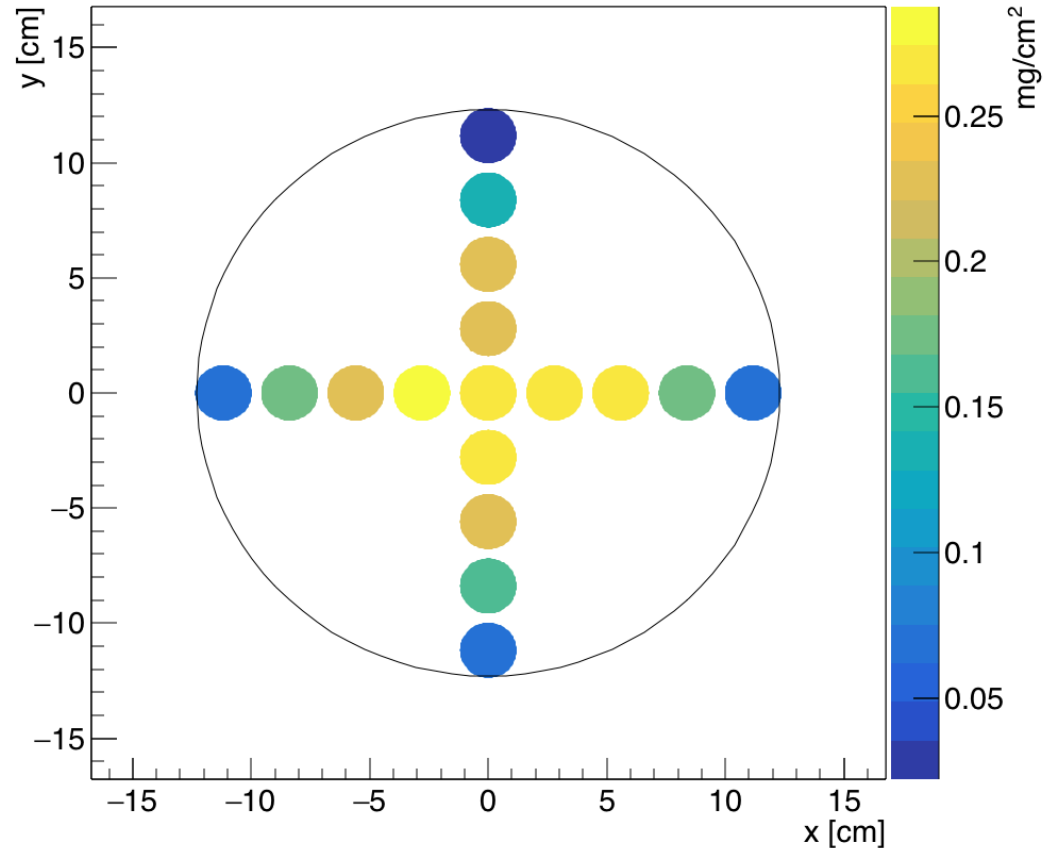
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TPB density along the PMT surface

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By weighting samples before/after the coating



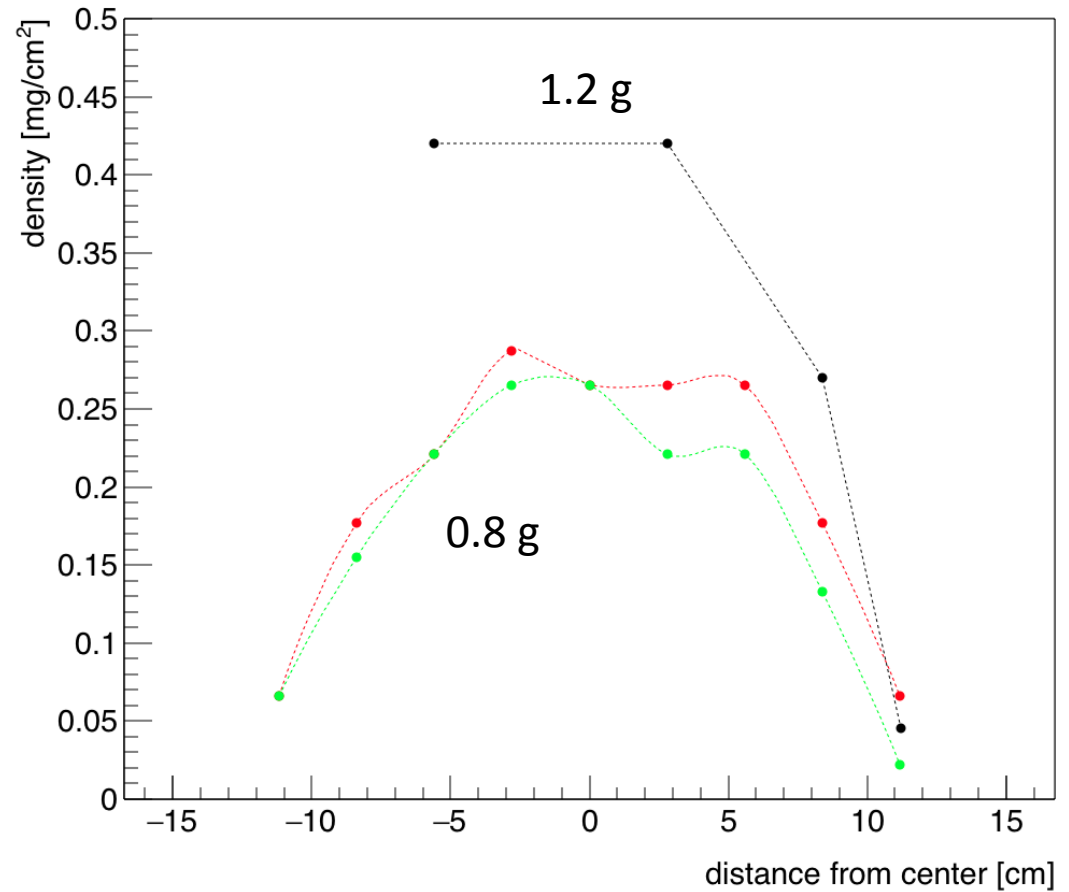
Similar values obtained with Mylar foils (placed in the center of the PMT)



# Evaporation 3

TPB density along the PMT surface

TPB evaporated: 1.2 g



Only on a few samples

# Summary

- Measurements performed last week with Maura Spanu (INFN) and Will Volleberg (CERN).
- System operation is stable.
- Performed measurements of coating uniformity on glass.
- Mass coating. Evaporator is still in the old lab. I asked if possible to move it after we have done with the WA105 task. It should be possible. TBD.