

Proposal to test TiN at SPS

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Why testing may be a good idea

- We have tested TiN in a free field region
 - It does condition from secondary electrons from residual gas.
 - Performance seems to be comparable to aC.
- We should test in dipole region to make sure that TiN does condition in a field region.

HOWEVER

- Even if we want to put in a beam pipe in the dipole region of MI that is coated with TiN **we cannot put in any RFAs.**

One Possibility

- Test TiN in SPS dipole and compare performance with aC.
 - C. Lin-Vallgren and Mauro Taborelli are interested in doing this. Following is email from him
 - “sure we can put the TiN in the SPS. We are manufacturing a new series of liners and we can reserve one for the TiN. What I cannot tell is the date when we will test it, but reasonably along 2011. We have already in the queue a liner from Mauro Pivi with grooves.” (dated 19 Oct 2010)
 - CERN can probably do an SEY test of the TiN once it is conditioned.

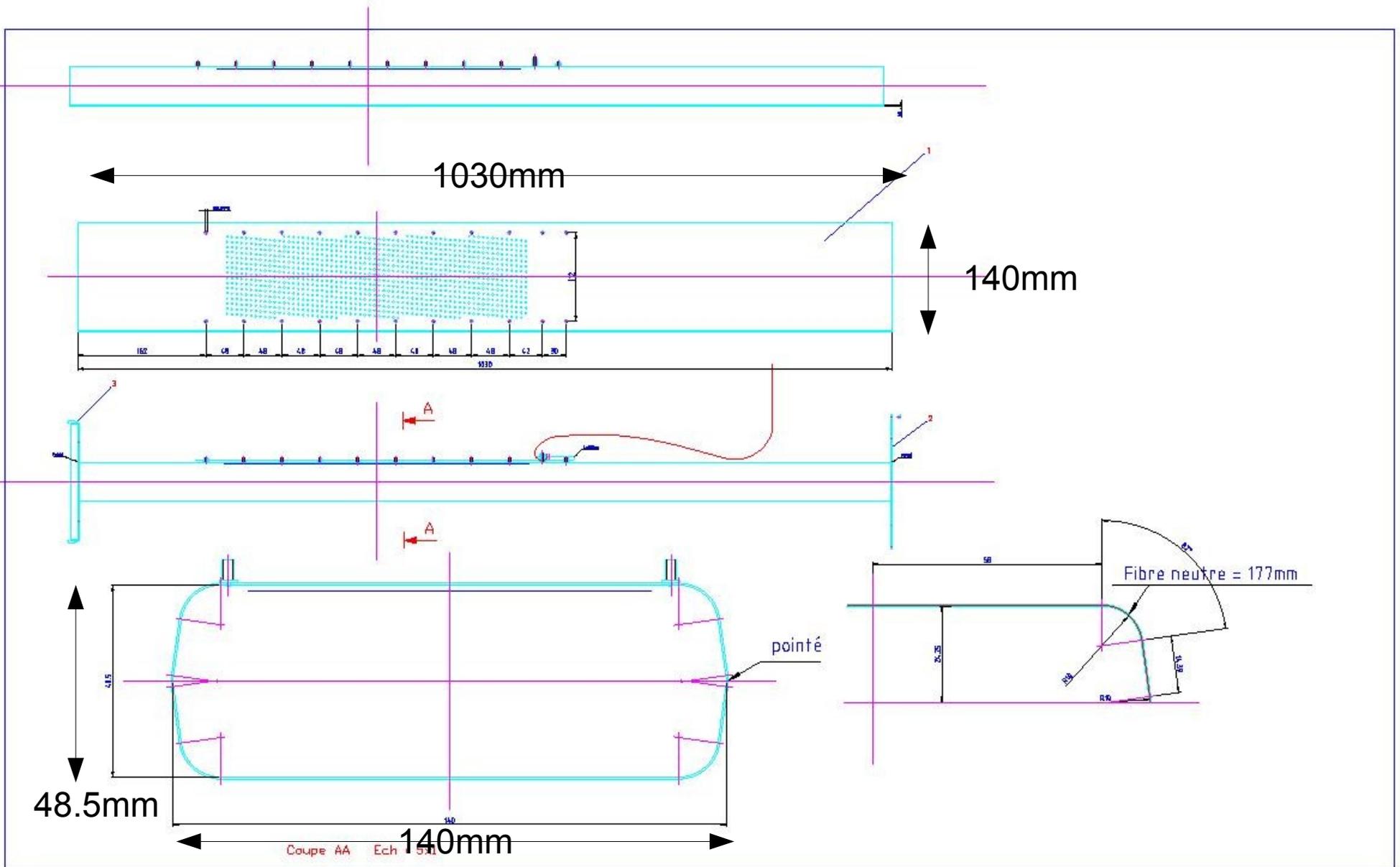
Liner in tube with 4 graphite rods

Lab samples, liner for e-cloud monitors

- The coating chambers were inserted in a solenoid and the magnetic field is **parallel** to the cathodes and chamber axis.
- The surface temperature can rise to 250°C.
- Four graphite rods were used to avoid coating in-homogeneity.

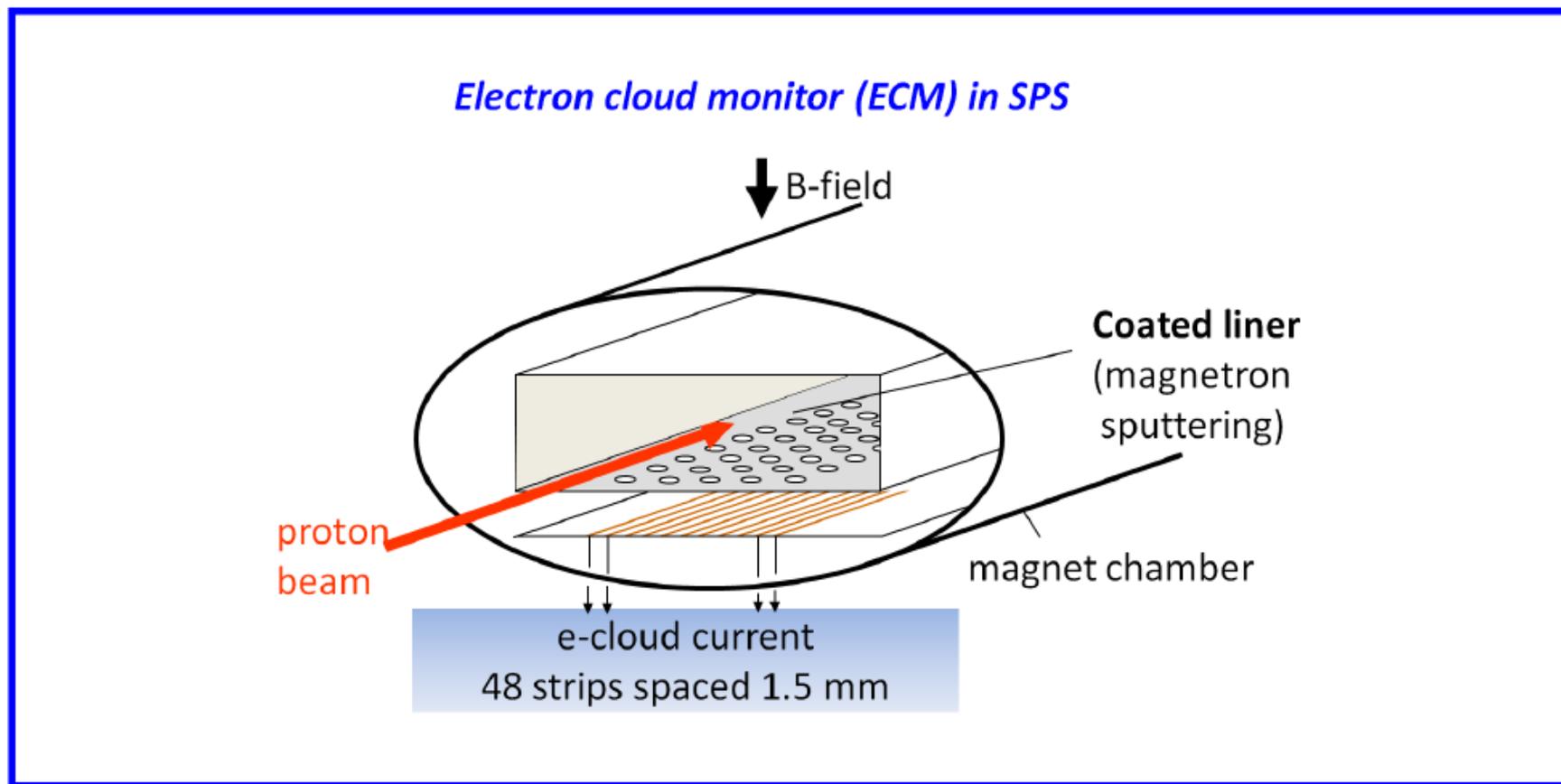


Courtesy of C. Vallgren



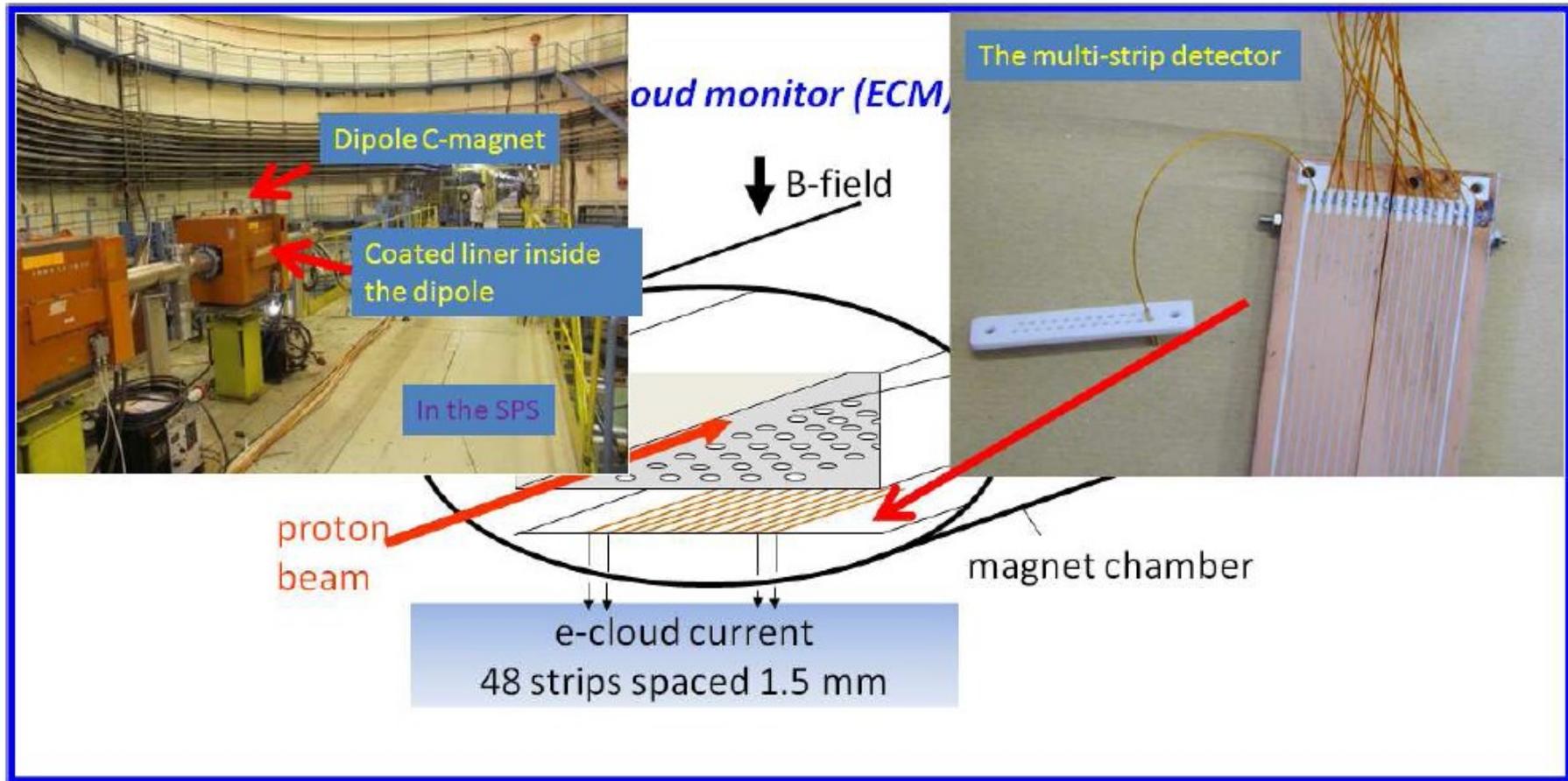
Courtesy of C. Vallgren and M. Taborelli

Coating for the Electron Cloud Monitor in the SPS



Courtesy of C. Vallgren

Coating for the Electron Cloud Monitor in the SPS



Courtesy of C. Vallgren