

MRPCs test at CERN

During the MRPCs assembly



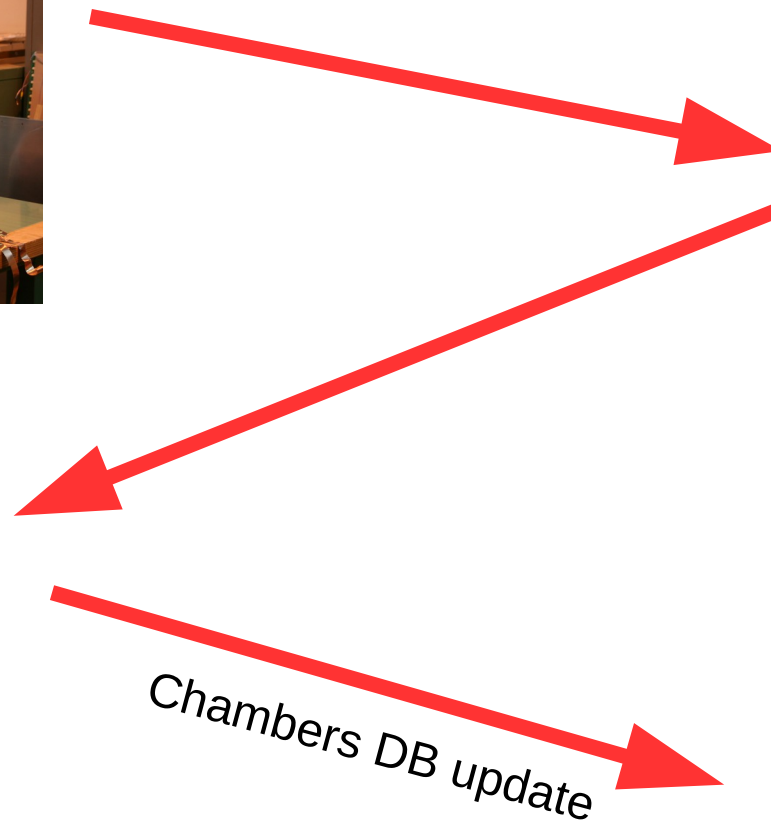
After the chassis installation



Using CERN-01 as a reference



Delivery



Chambers DB update

During MRPC assembly



During construction check carefully

a) HV polarity

b) strip connector solderings
(for avoiding inversions)

+ all the usual tests
already taken during MRPC assembly
(e.g. uniformity of glass resistance...)

Once chassis are closed



After construction each chamber is moved (on a table) and checked for

a) gas tightness

by inflating chambers to a little overpressure (20 mbar) measuring possible gas leakages

- by means of a siphon

- by using a differential probe

(already used for ALICE TOF chambers)

b) strip-FEA electrical continuity

(by means of Bossini box).

c) a unique ID is machined on the chamber chassis

(e.g. DATE+sequential or S/N like)

Once 3-4 chambers are ready

Chambers are mounted (using crane) above the 3 MRPCs being in use as CERN-01.

Using a NIM setup perform

- a) efficiency vs HV measurement (averaged on chamber surface)
- b) V/I curves (waiting 1-2 hours to let HV and I to stabilize)
- c) HV polarity can be rechecked looking at the efficiency vs. V curve



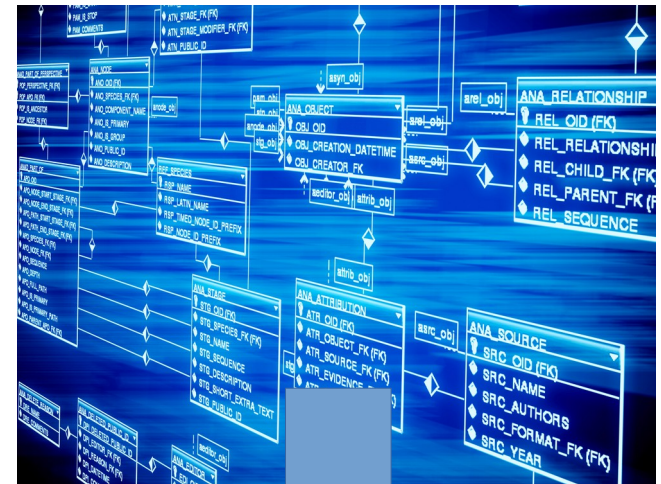
If we think we need a complete 2D efficiency mapping we can think about a Phase 2, with

- a complete DAQ + fast mount/dismount frame (Pisa has one of these structures in operation)
- a chambers flow wich allows for using 2 tested chambers for testing the last one mounted

Data Base

After the tests, information collected about chambers are saved to a **eelog** (first stage):

- Entry Date
- Unique chamber ID
- V/I curves
- Efficiency curves
- Fields for gas tightness, HV polarity check ...
- Chamber status: **test**, **delivered**, **mounted** on telescope
 - In this case, Telescope ID
- Comments



As a second step we can upload the eelog to a DB for allowing complex queries

(with the eelog already most of the possible queries are available – by date, chamber, telescope)

Ideas and comments?

