First results of RPC-MDT electronic interference.

- A preliminary test of partial RPC cabling was performed in Frascati.
- The goal of the test was to understand which type of cables (shielded/unshielded) should be used for the first full cabling exercise in Frascati.
- Four RPC Units assembled on one BML chamber were brought to full H.V. (10.2 KV) and all front-end boards were powered.
- A few "ad hoc" termination boards (330 Ω on –2 V) for the cables were available.
- Terminated unshielded cables were "moved around" the MDT chamber while electronic noise was monitored on-line looking at the word counts of the MDT readout.

Results.

- No noise was observed when unshielded cables were close to MDT tubes. In particular no noise is present when cables are laid on the RPC itself (this is what is needed for the wired-or of ϕ strips).
- Noise has been observed when unshielded cables were passed close to mezzanine cards and H.V. boards.
- The use of shielded cables when crossing this regions is necessary but more investigation is necessary to understand routing and grounding.
- Same data on MDT have been taken by the Frascati group and results of the analysis will be shown by Saverio.

Conclusion

The first full RPC cabling on MDT (all 192 f.e. boards cabled and loaded) will be done using unshielded cables for all path not crossing the read-out and H.V. areas of the MDT, and shielded cables for paths crossing these regions.