HARP solenoid (possible) availability

the HARP solenoid

- in the framework of T2K, the possibility of using (again) the HARP solenoid magnet is being investigated

- this magnet was born for the Aleph “TPC90” prototype

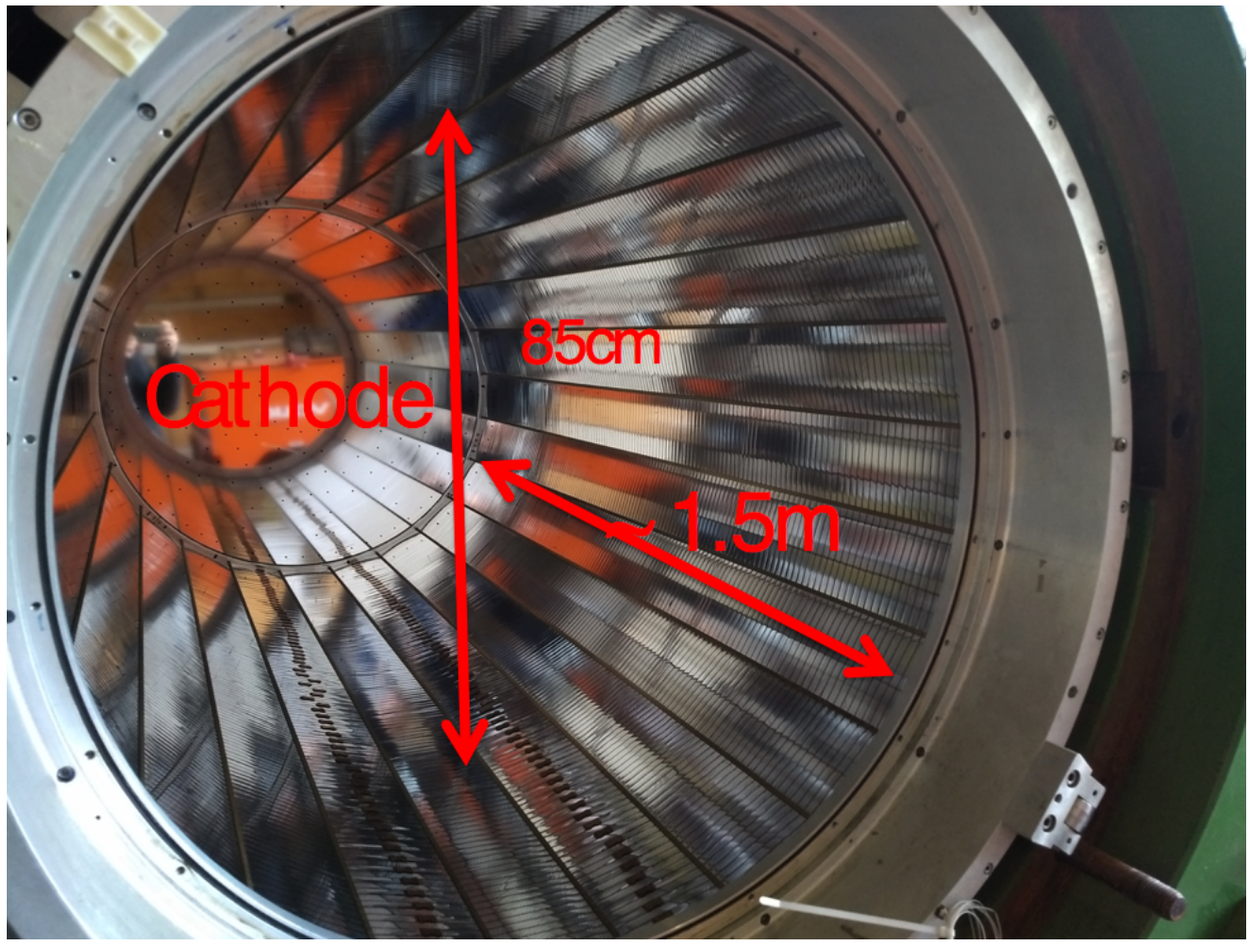
- it has an internal bore of 90 cm and was lengthened to 2m-active area due to insure a uniform field for the rather long HARP TPC

- with a suitable power supply, the nominal field is 0.7T

- field dis-uniformity used to be less than 1%, and there is no reason to suspect any damage in the last years

field-cage

- the companion field-cage is still available, and being used by T2K
  - different TPC amplification/ readout systems can be easily tested
- an adapter flange is all it takes to use it as a test-bed



status

- a suitable combination of experimental area and available power supply is being looked for.

- best candidate is “somewhere” in EHN1 - being investigated

- the power/cooling requirements at nominal field are demanding

    - at least for the moment, we are looking for a power/cooling combination to reach 0.4-0.5 T, but we’ll not reject a priori a powering configuration suitable to go higher (maybe in the medium term)

- the plan is to be ready to power the magnet sometimes in spring - let’s say around May

conclusion

- the HARP solenoid and field-cage combination is a good test-bed for TPCs and there is a good chance of making it operational again

- if anyone in the RD51 community is interested in using these tools … please get in touch with me