pfRICH in the ePIC TDR process

the DSLs are requested to prepare a TDR plan for their subsystem for calendar year 2024, including:

- The lab/testbeam/prototyping needed;
- The further progress needed for the reconstruction software;
- The verification of the implementation of the detector and detector response in simulation
and validation using information from lab/testbeam exercises or from literature;
- The studies required to demonstrate the detector performance;
- The required engineering design;
- The needed resources to achieve 60% (CD-2) and 90% (CD-3) design completion;
- The plan should include the time required to draft the text for the pre-TDR (CD-2) and TDR (CD-3).

Monthly progress reports starting from February 19

pfRICH calibrations (slow control / safety)

- Aerogel
  - Nominal refractive index, forward scattering, transmission
  - Tile boundaries, 3D surface mapping
  - Loss of transparency
- Mirrors
  - Nominal reflectivity
  - 3D surface mapping
  - Reflectivity loss
- Gas system
  - Over-pressure control
- HRPPDs
  - PDE, nominal timing resolution, nominal HV settings
  - Alignment in the sensor plane
  - HV settings in B-field, gain adjustment, detection efficiency loss, DCR change, Lorentz effect, t-offsets

As presented at the TIC meeting this week

pfRICH calibrations (slow control / safety)

- Readout
  - Nominal timing offsets
  - Thresholds (noise dependent), dynamic range adjustments, timing offsets, synchronization
- (Water) cooling system
  - Under-pressure control, temperature monitoring (also safety)
- Alignment in the experiment
  - Nominal position
  - Adjustment with respect to the tracker, small positional changes control (?)
- Environmental changes
  - Temperature, atmospheric pressure changes accounting