

# PRad-II to X17 Transition Configuration Change: New Suggested Option

- A new configuration option for the PRad-II to X17 transition have been worked out in the last few months. That includes:
  - keep the smaller PRad-II “absorber/collimator” in HyCal (another wards, keep running the X17 experiment with the PRad-II “absorber”);
  - as planned, change the PRad-II Al-beam pipe to the X17 He-beam pipe;
  - the rest is the same.
- Foreseen **advantages** of this option:
  - ❖ Experimental/mechanical:
    - ✓ no need to remove GEMs from HyCal (if the pipe can be removed/reinstalled without that);
    - ✓ no need to open the HyCal front door.;
    - ✓ no need to turn off the Chiller (or increase the temperature to the Hall temperature);
    - ✓ no need to **turn off all ~1200 HV**;
    - ✓ no need to repair fiber optics lines under the absorber;
    - ✓ no need to have RadCon survey (and delays) of the used absorber to be removed;
    - ✓ engineering re-survey (this needs to be discussed).
  - ❖ Physical:
    - ✓ geometrical detection acceptance increases by factor of 2-3 (see **next two talks**);
    - ✓ population of events on the HyCal (and GEMs) face is concentrated on the very inner edge of the detectors (a very undesired detection of events, especially for a “bump hunting” experiments) (see **next two talks**).
- Disadvantages:
  - ✓ increased rad doses and rates in first opened crystals. We may decrease luminosity by the same 2-3 factors.