

Pixelated AC-LGAD detectors FF/TOF (liaison report)

- Testing status:
 - IJCLab has prepared new carrier boards for EICROC0, two boards received at BNL; a few board issues before testing the bonded EICROC0. Post-testing, plan is: 1) for first board to bump-bond a BNL AC-LGAD for a preliminary 4x4 channel setup trial. The aim is to assess the bump-bond's readout from multiple pixels as the wire-bonded method had issues, 2) for second board wire bond HPK sensor.
- Studies needed:
 - Need to work on the synergies towards the sensor-size and layout. Need adjustment of the layout of FF trackers based on this assumption. B0-tracker space 7 cm(?), reduce thickness? radiation hardness? VTRX+ (procurement?)
 - Need to Compare performances of BNL and Hamamatsu sensors (spatial resolution, timing, etc)
 - Need to study Edge-less design. Current state: 500-700 um at all sides dead-area. Need to include this into the layout and simulation.
 - Power consumptions of EICROC — we need this number, for cooling options/designs for B0 and RP (heat-exchange for both ? Air-cooling for B0?)
- Consolidation and Collaboration:
 - Centralize construction/assembly to reduce export-control, taxes, & shipping costs; location determination.
 - Merge TOF and FF/FB AC-LGAD teams to streamline test-beams and prototyping, reducing redundancy.
 - One wiki page/doc for all the design parameters at one place

