

Silicon Vertex Simulation Status and Plans

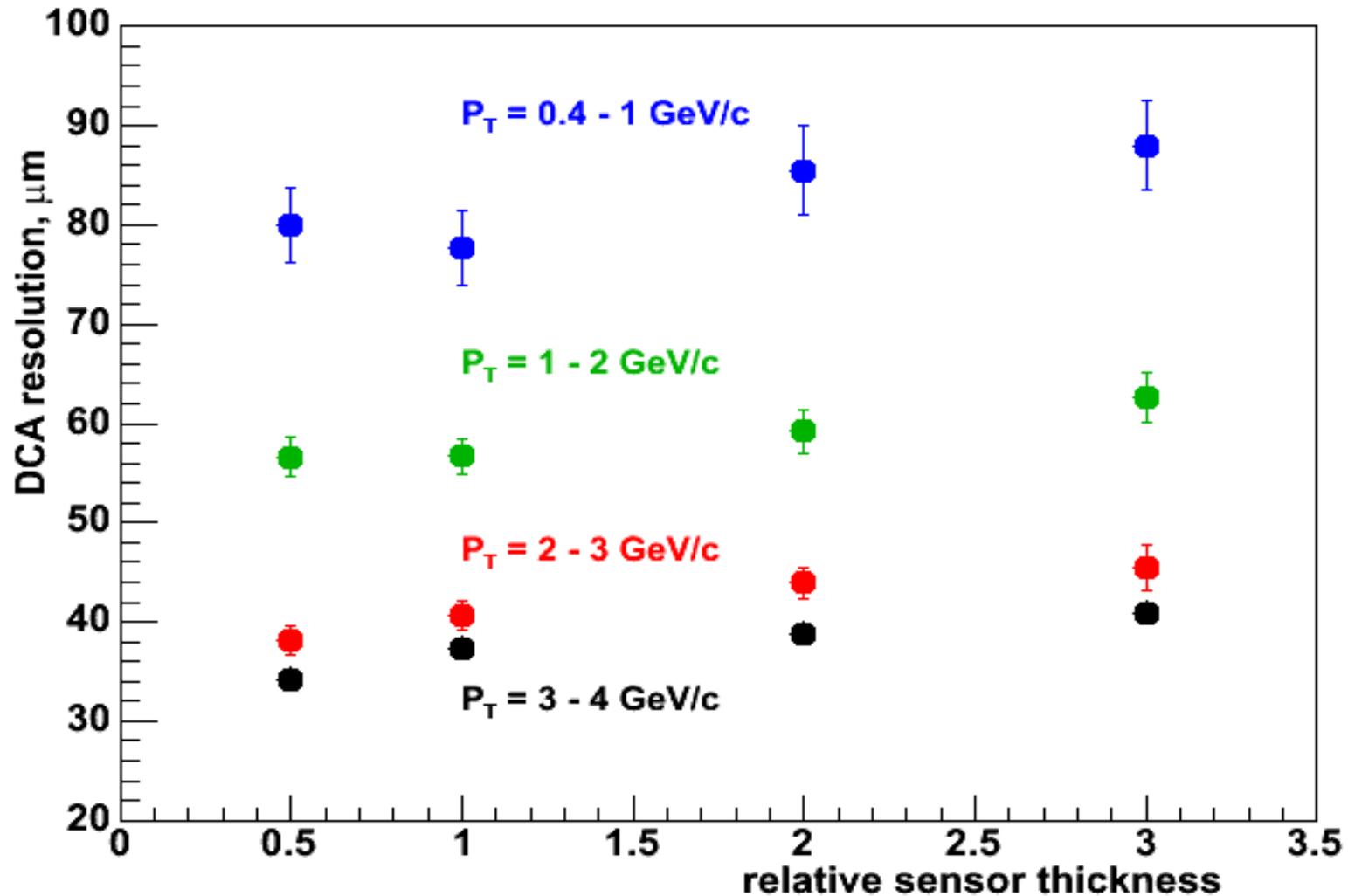
Alexandre Lebedev, Iowa State University

Recent software updates

- More realistic amount of material in pisa strip sensors thicker 500 -> 625 μm
more passive material in pixel layers: 0.75% -> 1.22% X0
less passive material in strip layers: 2.20% -> 1.41% X0
total: 1.44%/layer for pixels, 2.10%/layer strips
VTX became thinner by $\sim 0.35\%$ X0
- Possibility to introduce misalignments on ladder level
random Gaussian shifts in X-Y plane
no shift in Z and R
misalignments inside ladders assumed negligible

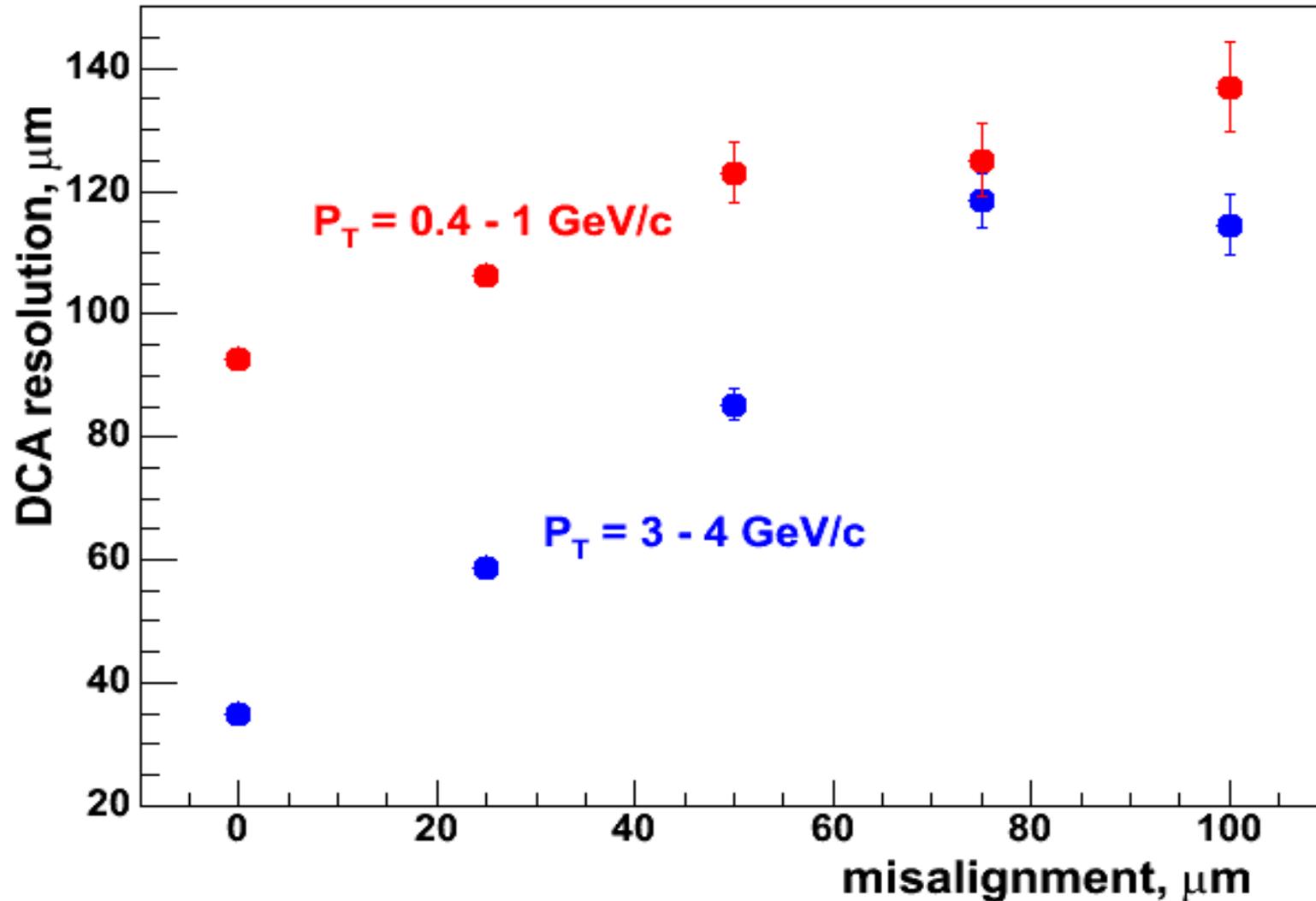
Recent simulation studies

DCA resolution vs sensor thickness



Recent simulation studies

DCA resolution vs misalignment



Other recent studies

Standalone momentum reconstruction vs misalignment
(see Alan's talk)

Separation of charm/beauty for R_{AA} and V_2 , gamma-jet
correlations (see Yasuyuki's talk)

Plans for the nearest future

- Continue simulation studies
- Introduce staggered geometry for the strip layers
- Get ready for data taking
- Endcap geometry in database
- Calibration and Alignment tools
- Event display and standalone tracking (Alan)