

# Vertexing Task List

1. Incorporate B-field into vertexing
  - a. Actual vertexing code doesn't change much (algorithm has linear assumption near vertex); what changes is propagation of tracks & covariance to  $\sim$ vertex position
  - b. Norman has the RK track+covariance propagation code which implements full b-field ready to go, so this task will just involve replacing existing, constant-b-field code with the RK propagation.
  - c. This likely has a pretty small effect on vertexing, but should be easy to do and doesn't depend on upstream stuff, so I put this as priority #1
2. Investigate & fix pulls on vertexing parameters
  - a. This goes hand-in-hand with tracking pulls (I can help with this too) as those will feed directly into vertex pulls;
  - b. Both this and #1 can use 2016 data/MC to start off with
3. Provide more "vertex quality" info into the saved collections
  - a. We have quite a bit of info that's used for vertexing analysis (saved in tuples) that would be useful if it were saved in event;
    - i. E.g. did a track go through active/inactive region of silicon but no hit recorded? Another "pretty-good" track that uses almost the same hit list? Etc...
    - ii. Should we be making a "target-constrained" track list?