

FST Material Budget

CVS1.17 vs Updated FstmGeo.xml

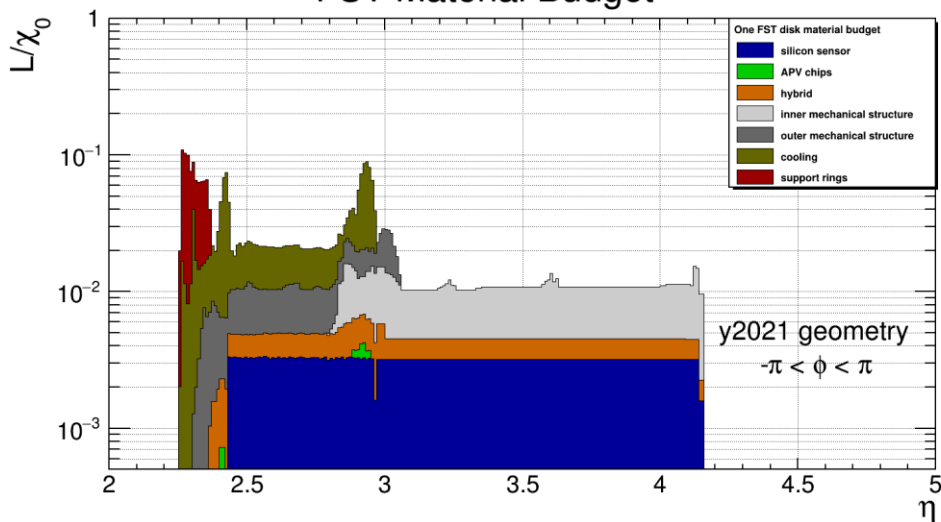
03/31/2021

Updates to Geometry

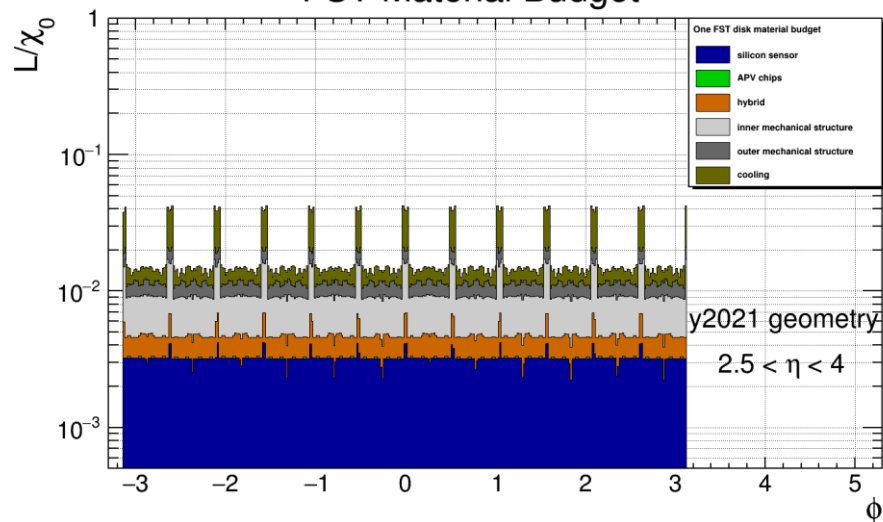
- FST geometry used is updated from CVS1.17.
 - File used located at
`/star/u/videbaks/fst/StarVMC/Geometry/FstmGeo/FstmGeo.xml`
 - Inner support rings are included.
 - Inner silicon sensors are shifted slightly further from overall FST disk z-location.
 - Inner and outer mechanical structure bases have greater dz.
 - Hybrid scaled to $0.35 \times$ original thickness in geometry file.

CVS1.17

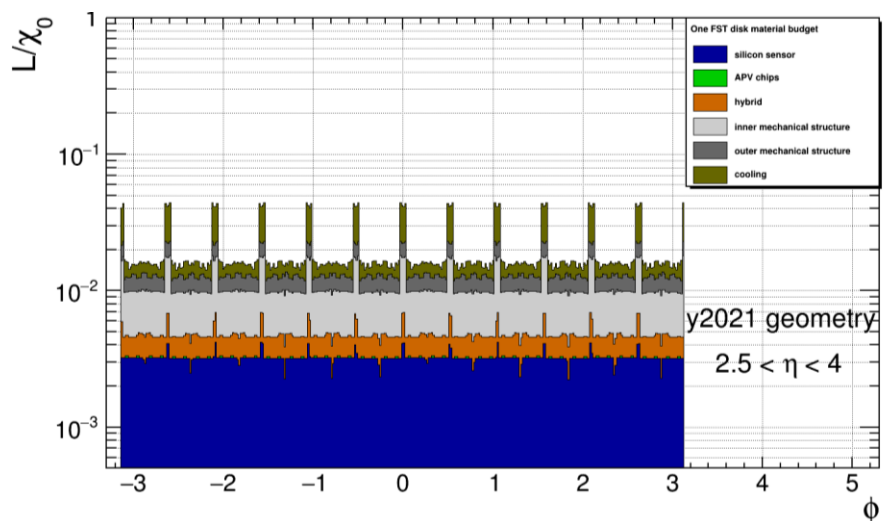
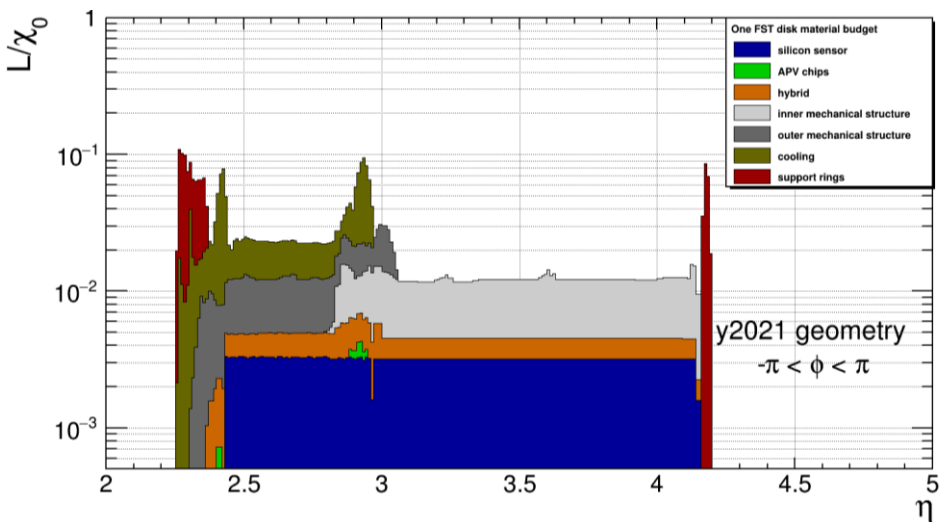
FST Material Budget



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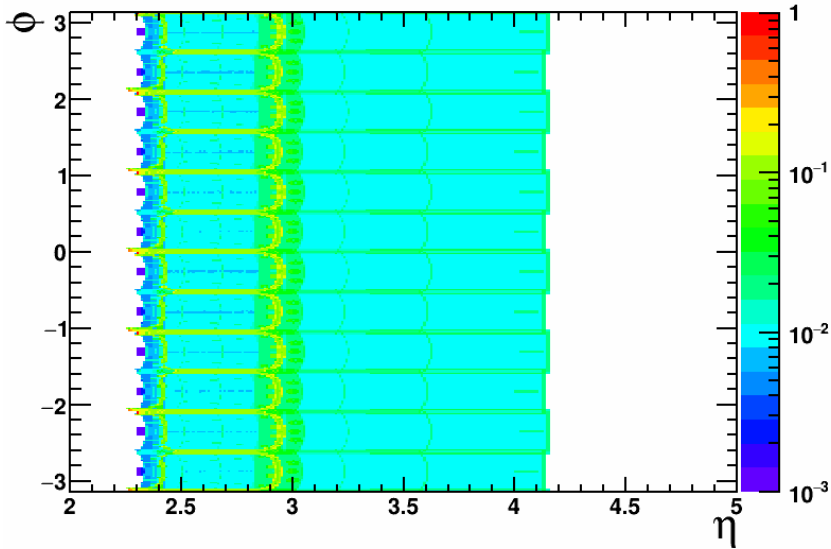


Updated Geometry

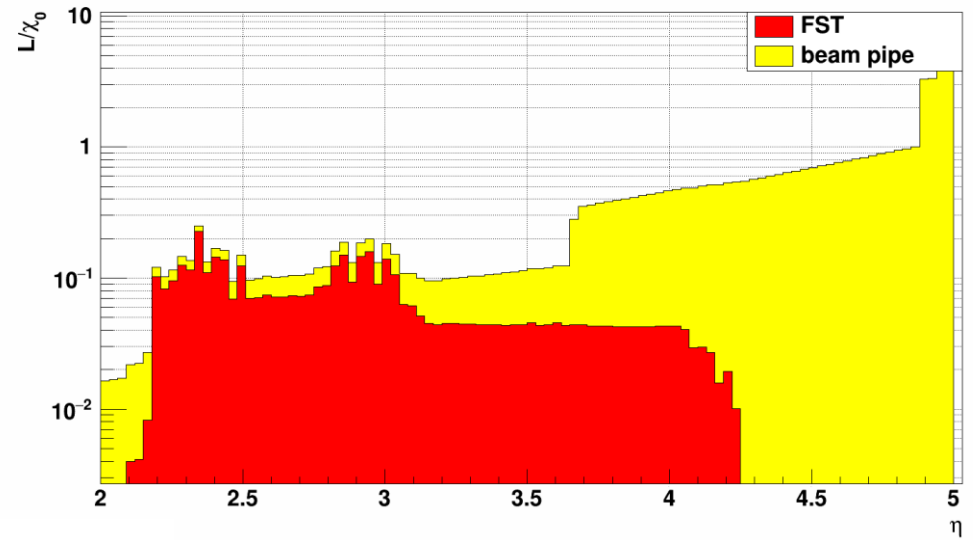


- Inner and outer mechanical structure base have greater dz \rightarrow L/χ increased over total phi and eta range.
- Inner support rings added for newest geometry.

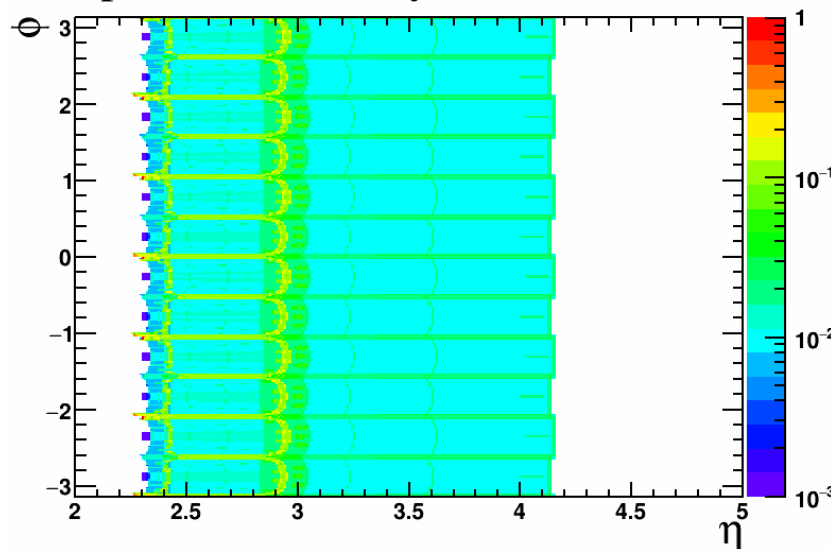
CVS1.17



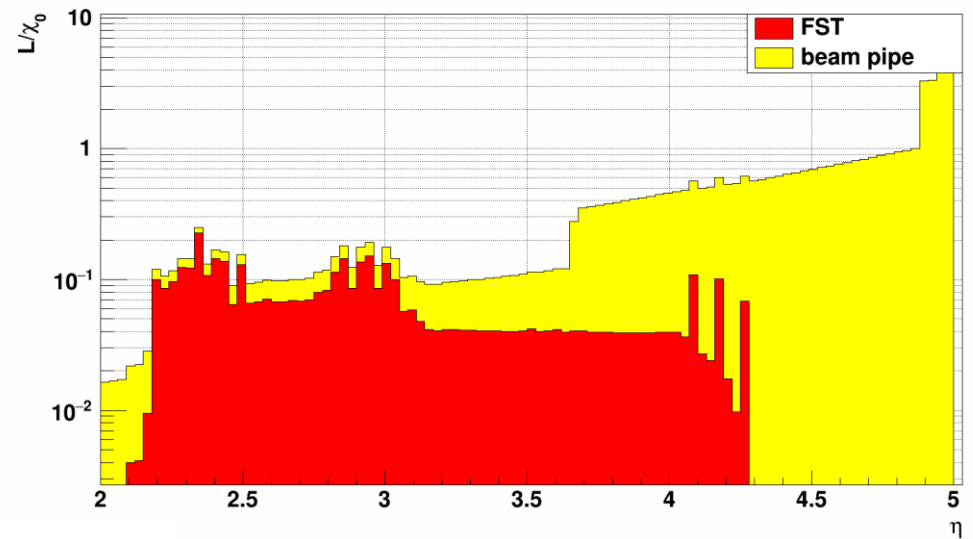
material budget histograms (300 micron)



Updated Geometry



material budget histograms (300 micron)



- 2D plot includes silicon, APV, hybrid, cooling, inner and outer mechanical structures.
- Hybrid scaled by *0.35 in CVS1.17 results.

- CVS1.17 results do not have scaled hybrid for full FST material budget or outer support rings.