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# TOP-BOTTOM ASYMMETRY INVESTIGATIONS

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FEB 5 2018

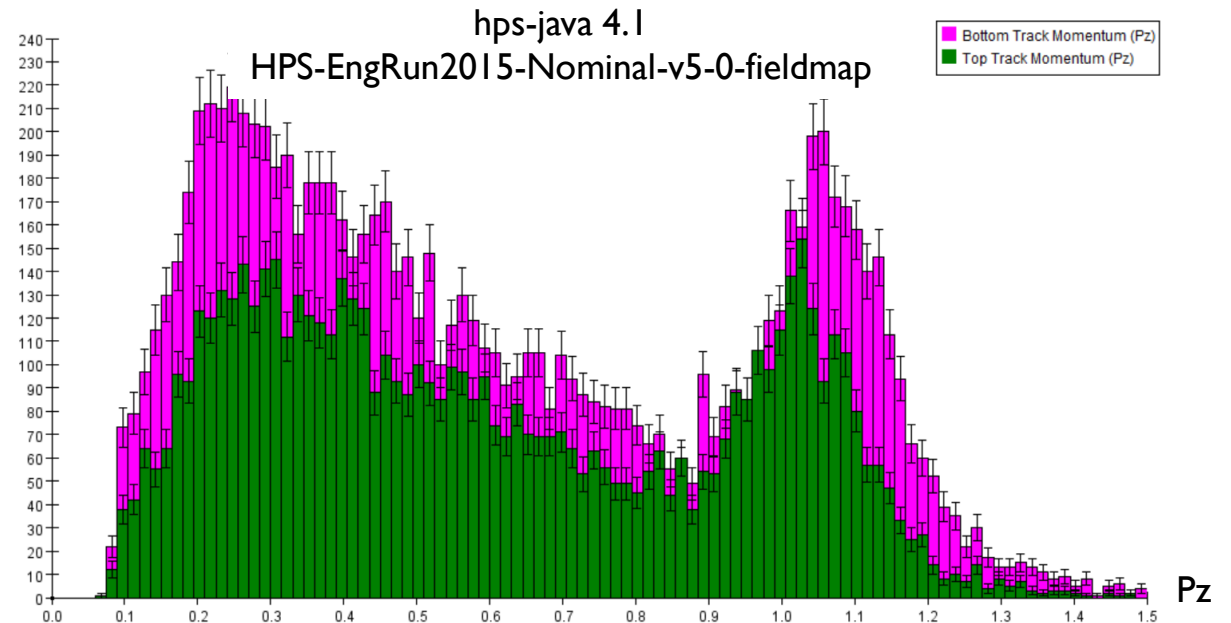
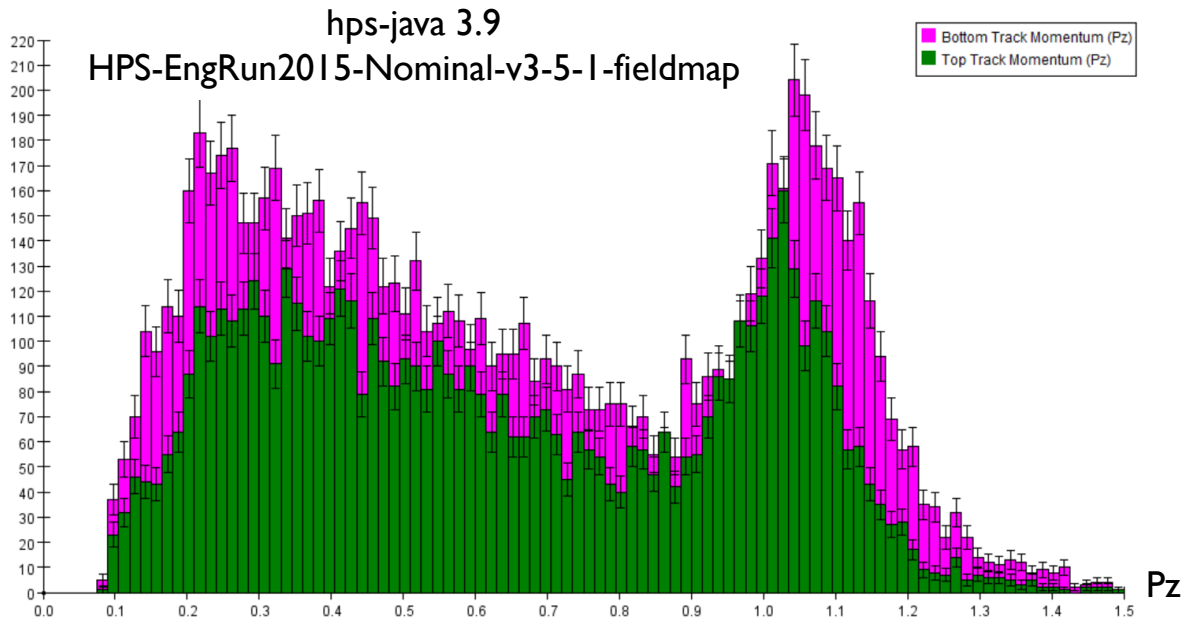
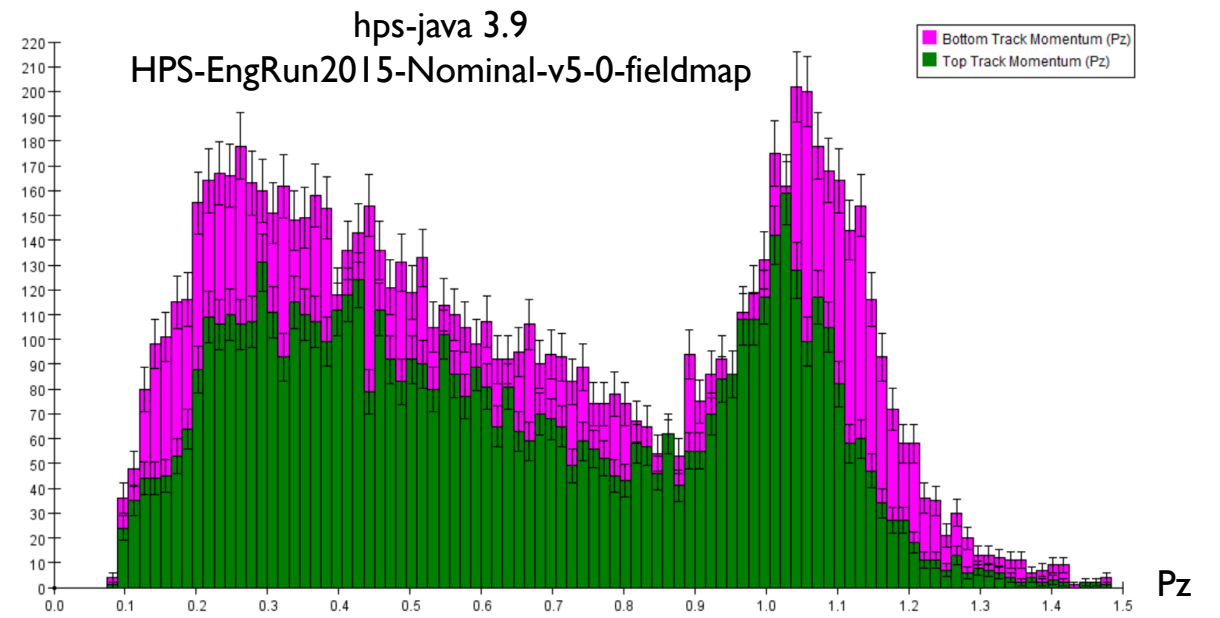
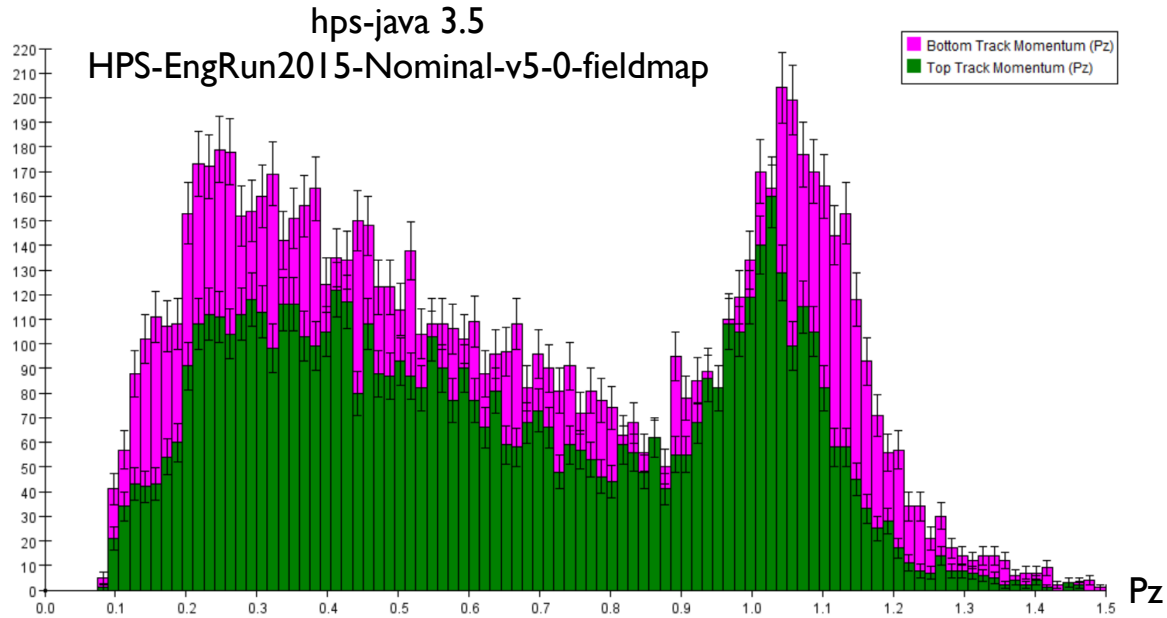


Groundhog hole!  
6 more weeks of tracking software work

## TOP/BOTTOM GBL TRACKS

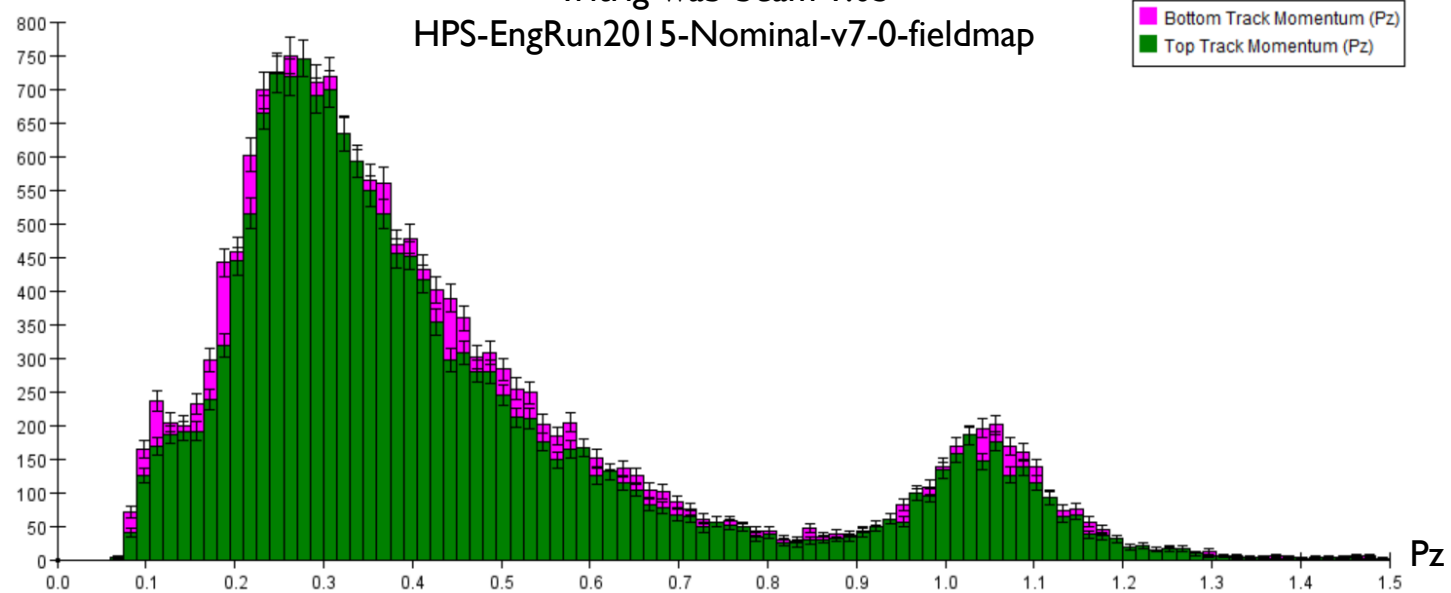
- Alessandra reported large top/bottom asymmetry in reco efficiency ( $\sim 30\%$ ) that she hadn't seen with previous reconstructions, in 2015 data
- I used my tracking unit tests to plot all GBL tracks, right after track reco
  - Before quality cuts, particle reco, skimming, tuple-making, etc.
- In data (5772) I see same asymmetry as Alessandra, but it was always there
  - Even in hps-java 3.5
  - Even with old detector EngRun2015-Nominal-v3-5-1-fieldmap
- But not present in MC !

# RUN 5772

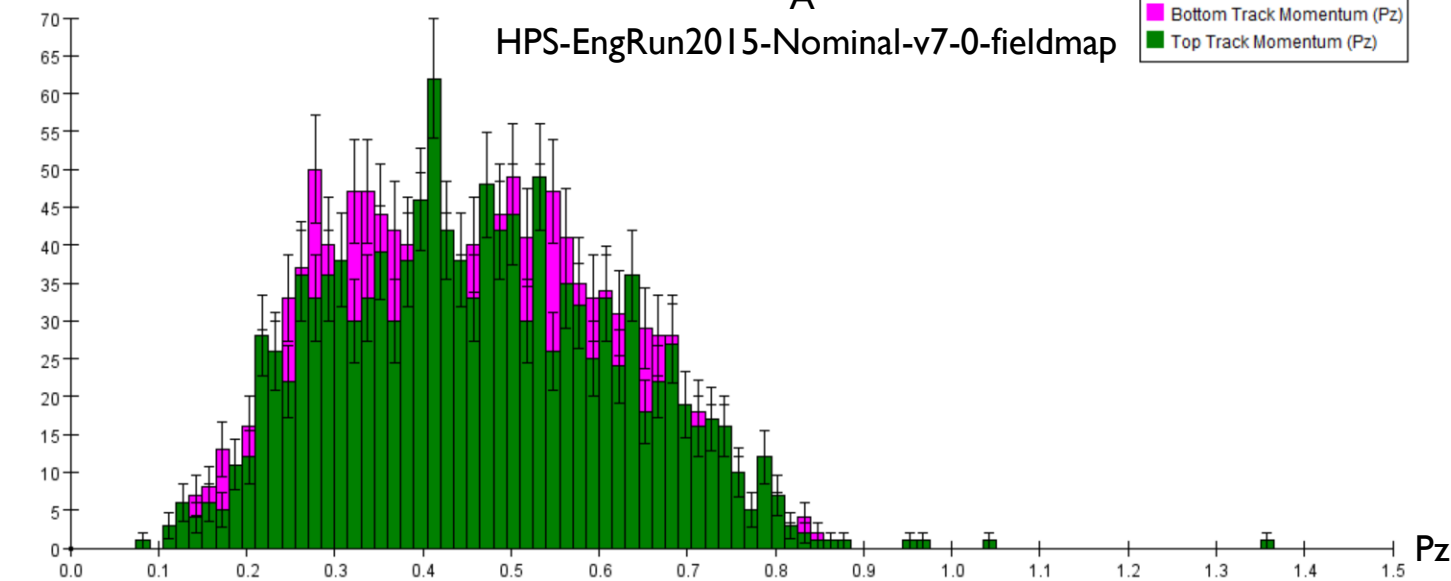


# MC HPS-JAVA-4.1

Tritrig-wab-beam 1.05  
HPS-EngRun2015-Nominal-v7-0-fieldmap



A'  
HPS-EngRun2015-Nominal-v7-0-fieldmap



# SUMMARY

	<b>hps- java</b>	<b>HPS-EngRun2015- Nominal-</b>	<b>Top</b>	<b>Bottom</b>
Data 5772	3.5	v5-0-fieldmap	6043	9025
Data 5772	3.9	v5-0-fieldmap	6062	8991
Data 5772	3.9	v3-5-1-fieldmap	6057	8966
Data 5772	4.1	v5-0-fieldmap	6514	9849
MC Tritrig-wab-beam	4.1	v7-0-fieldmap	1263	1363
MC A'	4.1	v7-0-fieldmap	16422	17998

My tracking changes recovered some low-momentum tracks 😊