Offline Electron Seeding Validation - Update

Caleb Fangmeier Ilya Kravchenko, Greg Snow

University of Nebraska - Lincoln

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INTRODUCTION

- Our goal is to study seeding for the offline Gsf tracking with the new pixel detector.
- Previous talk gave introduction/motivation to approach
- ► Since Then,
 - Migrated Code from 8_1_0 to 9_0_2
 - Regenerated trackingNtuples for dataset

/DYJetsToLL_M-50.TuneCUETP8M1_13TeV-madgraphMLM-pythia8 /PhaseISpring17DR-FlatPU28to62HcalNZS_90X_upgrade2017_realistic_v20-v1/GEN-SIM-RAW

- Calculated $\Delta \phi_{1,2} / \Delta z_{1,2}$ for distances between extrapolated SC and reconstructed pixel hit
- In previous talk, gave distributions of the above for distances between

FIRST MATCHED HIT RESOLUTIONS (SIMHIT - RECHIT) BPIX - Laver 2 BPIX - Laver 1 4000 3500 3000 2000 00 1000 500 -0.0015 -0.0010 -0.0005 0.0000 0.0005 0.0010 0.0015 -0.0015 -0.0010 -0.0005 0.0000 0.0005 0.0010 0.0015 3500 3000 2500 1000 40 500 20 ------0.0100 -0.0075 -0.0050 -0.0025 0.0000 0.0025 0.0050 0.0075 0.0100 -0.0100 -0.0075 -0.0050 -0.0025 0.0000 0.0025 0.0050 0.0075 0.0100 $\Delta m(cm)$ 2000 1500 1000 40 500 Het. 0.000 0.001 0.002 0.003 0.004 0.005 0.006 0.000 0.002 0.003 0.004 0.005 $\Delta m(cm)$ $r\Delta c_1(cm)$

FIRST MATCHED HIT RESOLUTIONS (SC EXTRAPOLATION)



SECOND MATCHED HIT RESOLUTIONS (SIMHIT - RECHIT)



SECOND MATCHED HIT RESOLUTIONS (SC EXTRAPOLATION)



Outlook

- Investigate spikes in $\Delta \phi_1 / \Delta z_1$ distributions
- ► Add cross-references between SC info and matched seeds/hits to ntuple
- Suggestions from experts?