

Hit Issue

❏ MPGD issue found: [Issue #774](#)

[@wdconinc](#), With my 20k 10GeV pi+ sample at $70 < \theta < 110$ degrees, I got the following number of events with at least one hit at given radius range. The events missed MPGD seem to have no preference in theta and phi.

Hit collection name / rmin / rmax [mm] / # of events

SiBarrelVertexRecHits 30 42 20000

SiBarrelVertexRecHits 46 60 20000

SiBarrelVertexRecHits 115 130 20000

SiBarrelTrackerRecHits 265 280 20000

SiBarrelTrackerRecHits 415 450 20000

MPGDBarrelRecHits 540 600 16353

TOFBarrelHits 610 650 20000

OuterMPGDBarrelRecHits 700 750 13875

missing MPGD hits #774



ShujieL opened this issue 2 days ago · 7 comments

Hit Issue

❑ Shujie presented missing MPGD hits during [Tracking WG meeting \(9/5\)](#)

- Hits lost going from sim hits to digi hits on all MPGD detectors
- [Related to threshold value?](#) (current value 0.25 KeV)
 - Can verify by looking at sim → digi hit loss with threshold set to 0

Detector	digi/sim hits [%]
CyMBaL	84
Rwell-BOT	85
MPGD disk 1	77
MPGD disk 2	78

Central region

$-0.2 < \eta < 0.2$

Missing tracker hits:

Shujie

Detector	Rmin [mm]	Rmax [mm]	# of events with sim hits	with digi hits
Si Barrel L0	30	42	10000	10000
Si Barrel L1	46	60	10000	10000
Si Barrel L2	115	130	10000	10000
Si Barrel L3	265	280	10000	10000
Si Barrel L4	415	450	10000	10000
Inner MPGD Barrel	540	600	9988	8424
TOF Barrel	610	650	10000	10000
Outer MPGD Barrel	700	750	8234	6987

Forward region

$2.2 < \eta < 2.4$

Missing tracker hits:

Shujie

Detector	Zmin [mm]	Zmax [mm]	# of event with sim hits	# of event with digi hits
Si disk 1	240	260	9996	9996
Si disk 2	440	460	9998	9998
Si disk 3	690	710	9995	9995
Si disk 4	990	1010	9989	9989
Si disk 5	1340	1360	9981	9981
MPGD disk 1	1480	1500	9966	7702
MPGD disk 2	1600	1620	9950	7758
TOF disk	1840	1880	10476	10475

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