

LAr + TMS: Matching Tracks

Faiza Akbar
June 29, 2021



LAr+TMS

- LAr file — J. Wolcott

/dune/data/users/jwolcott/nd-lar-reco/summary_h5/geom-20210623/
neutrino.23.summary.h5

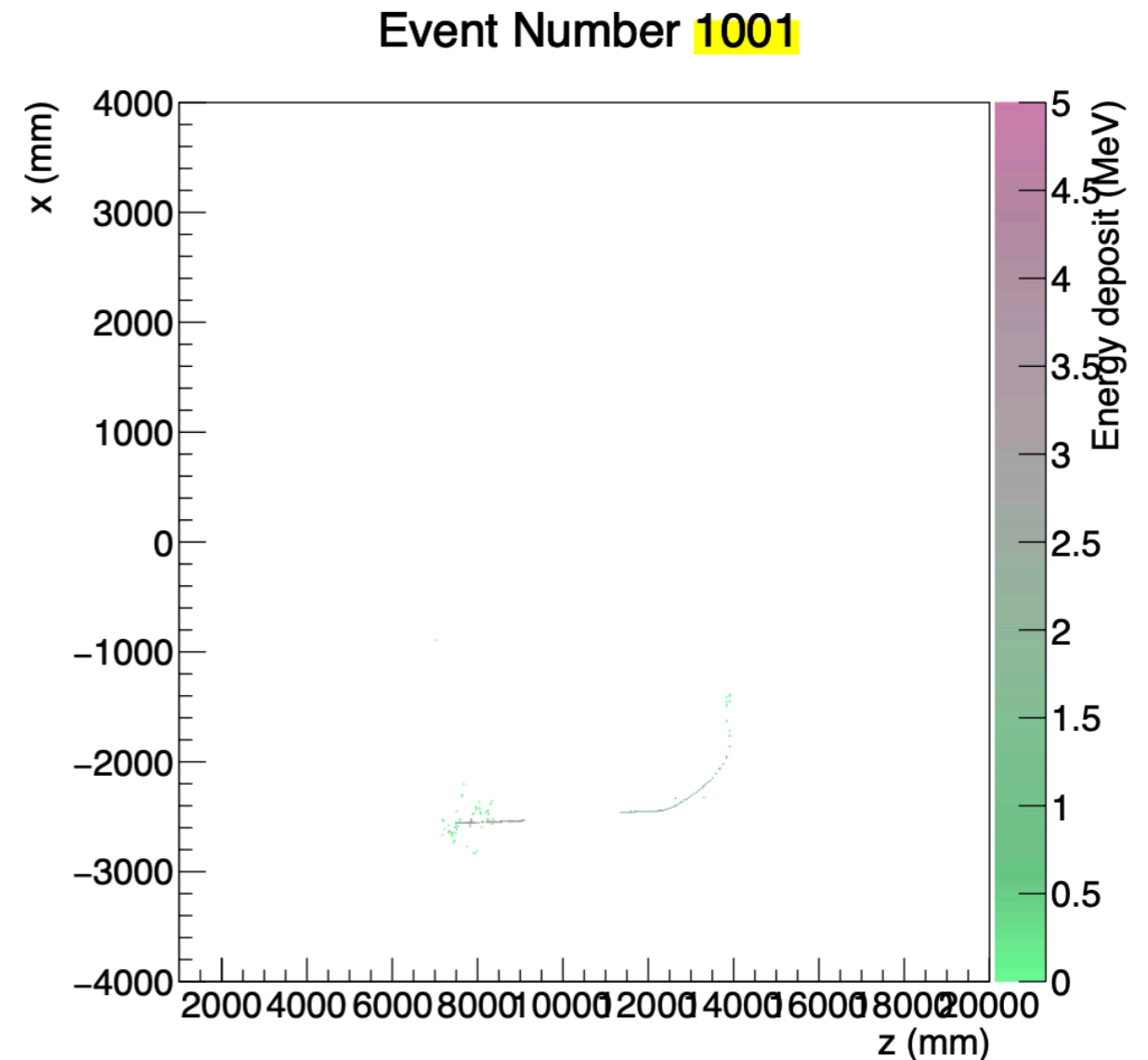
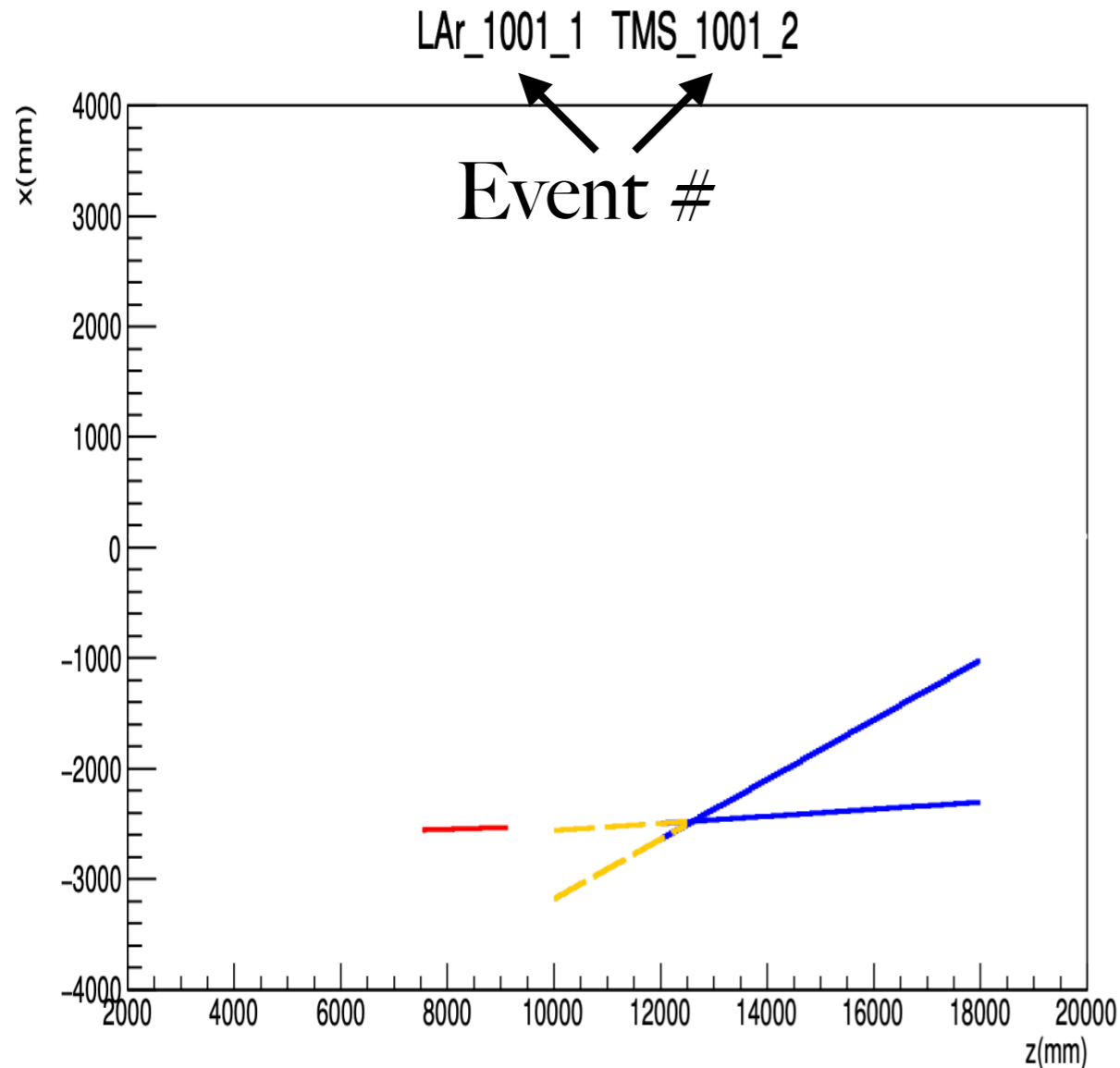
/dune/data/users/fakbar/trackMatching/LAr/LAr_FHC.neutrino.23.summary.root

- TMS file — C. Wret

/dune/data/users/cwret/tms/track_file_test/LArTMSProductionJun23withLArCV/
neutrino.23.edep_LineCandidates.root



Tracks are matching in LAr and TMS

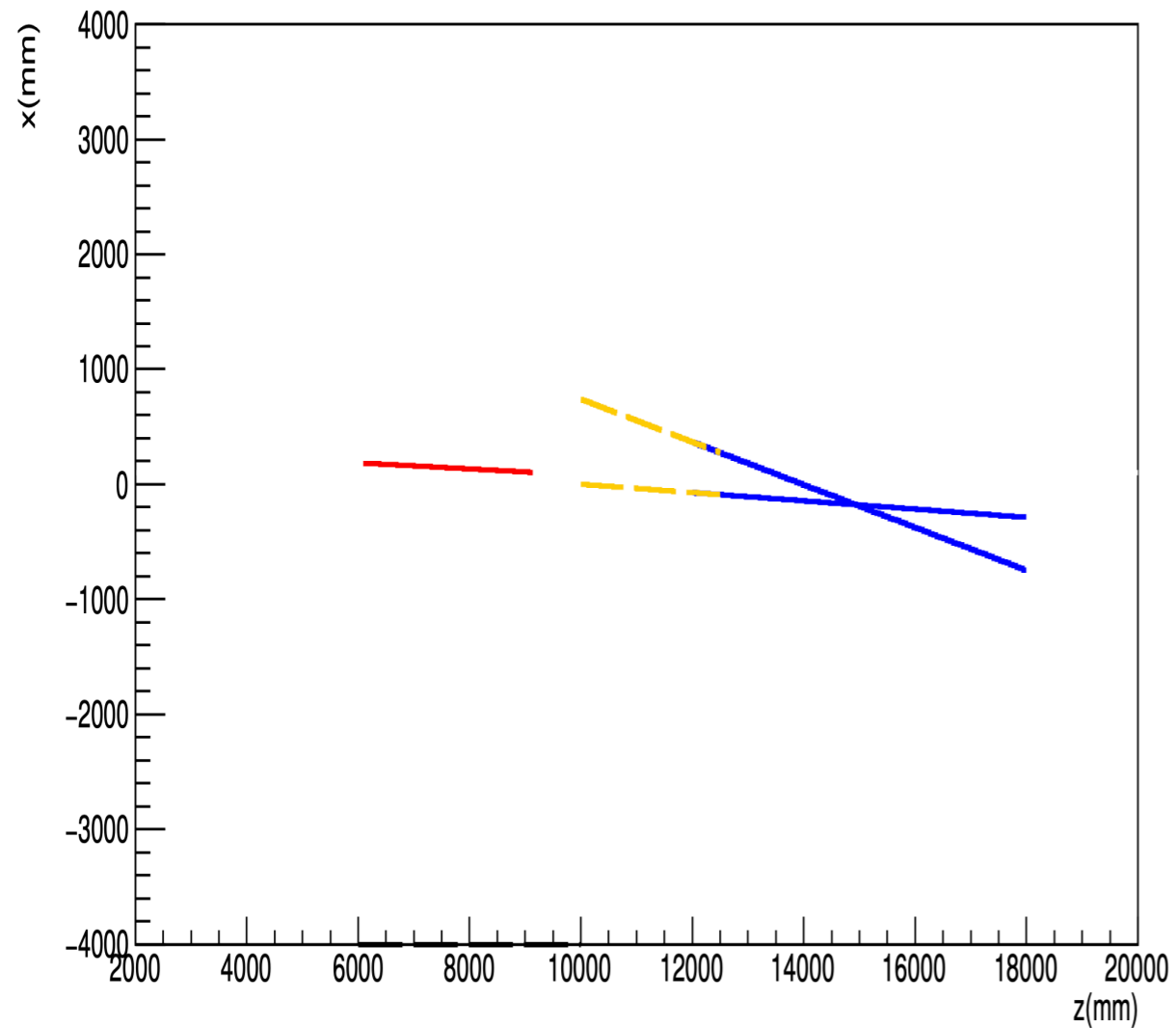


- Red tracks are from LAr:
- Only tracks with $z > 9000$ mm are shown here
- Blue tracks are from TMS: $12000 \text{ mm} < z < 18000 \text{ mm}$
- Orange tracks are just TMS tracks extrapolated: $10000 \text{ mm} < z < 12500 \text{ mm}$
- Matching tracks from LAr and TMS at $z = 10000 \text{ mm}$

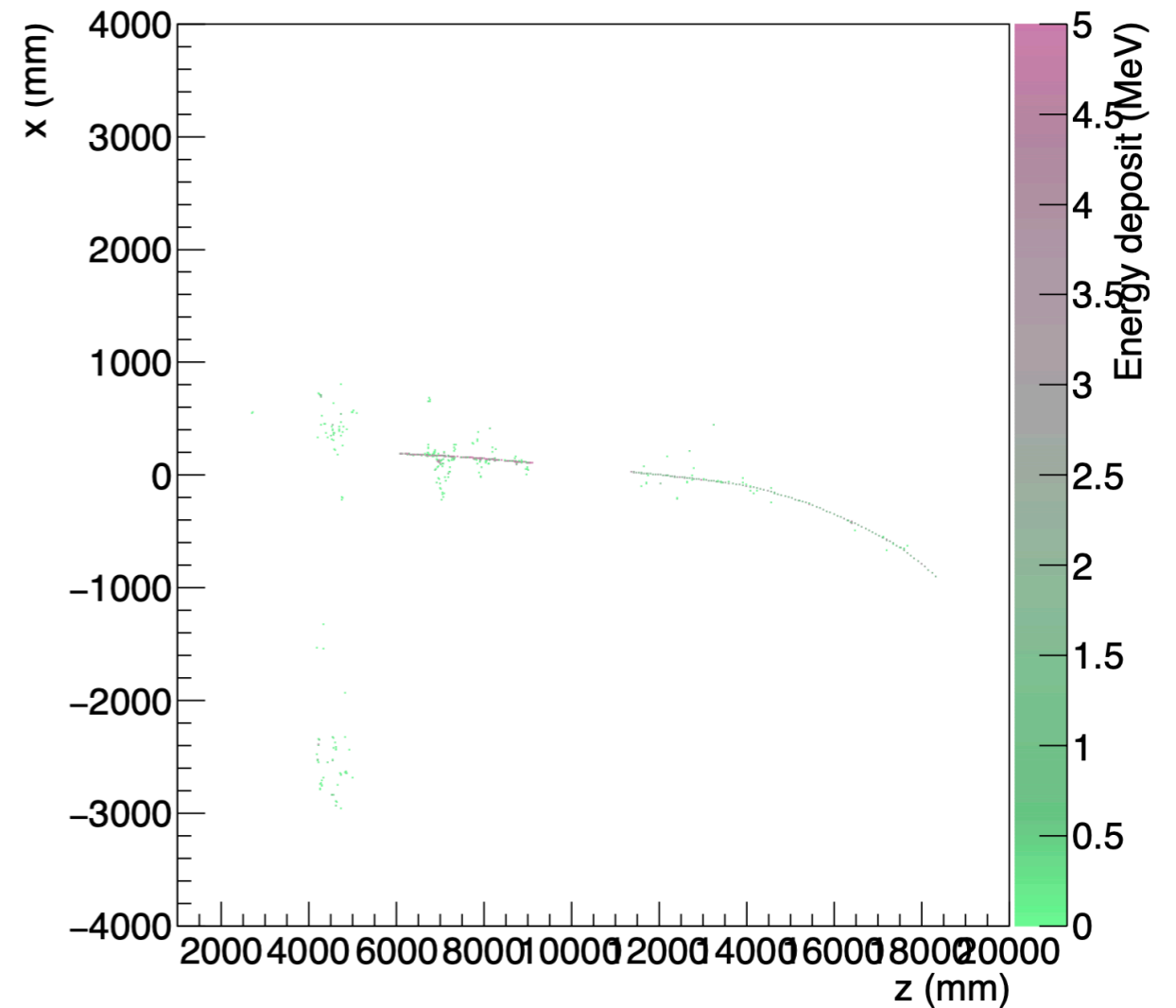


Tracks are matching in LAr and TMS

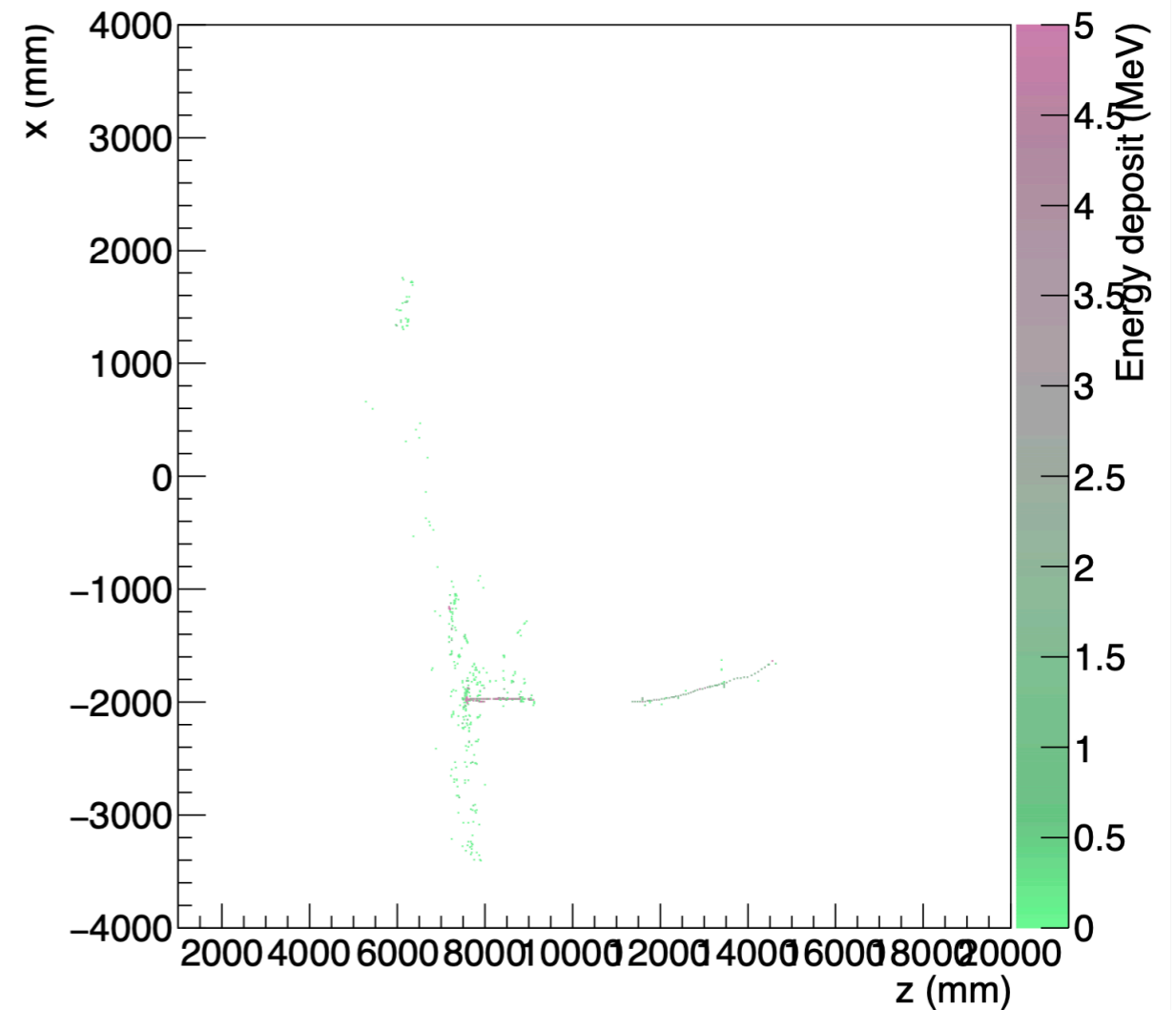
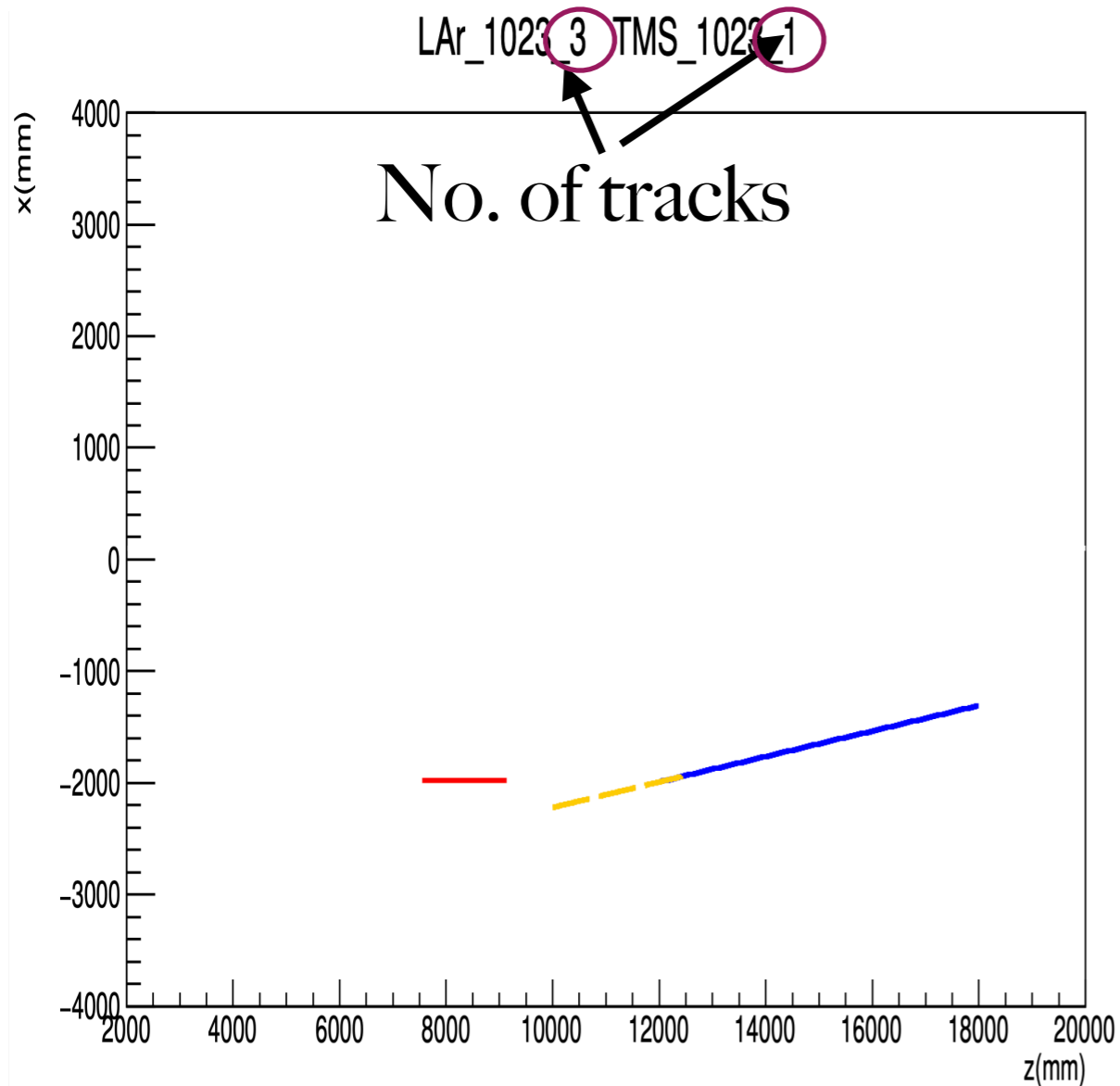
LAr_1050_1 TMS_1050_2



Event Number 1050



Tracks are matching in LAr and TMS

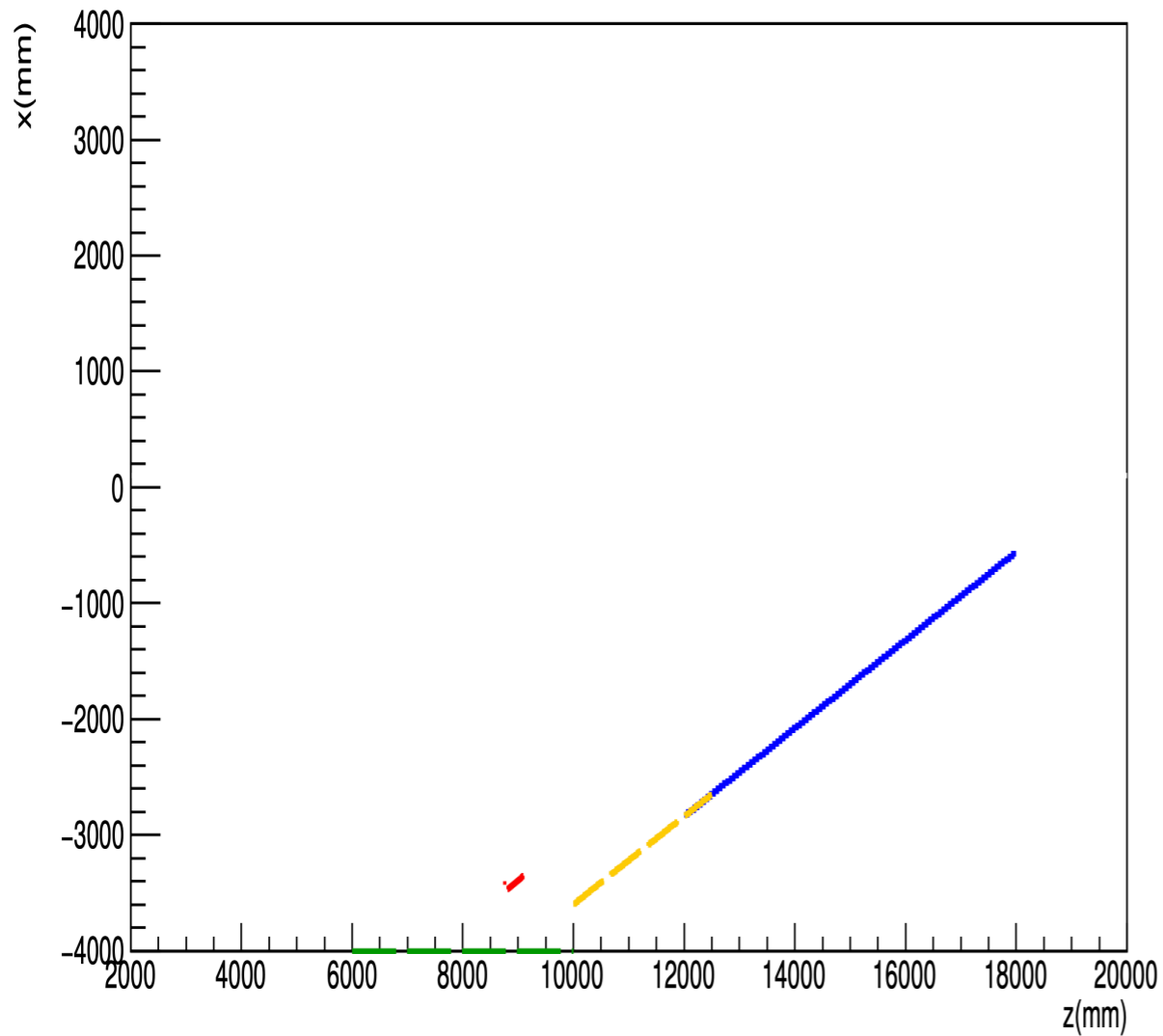


- Red tracks are from LAr: there are more than one track in this event
- The track with $z > 9000$ mm is shown here

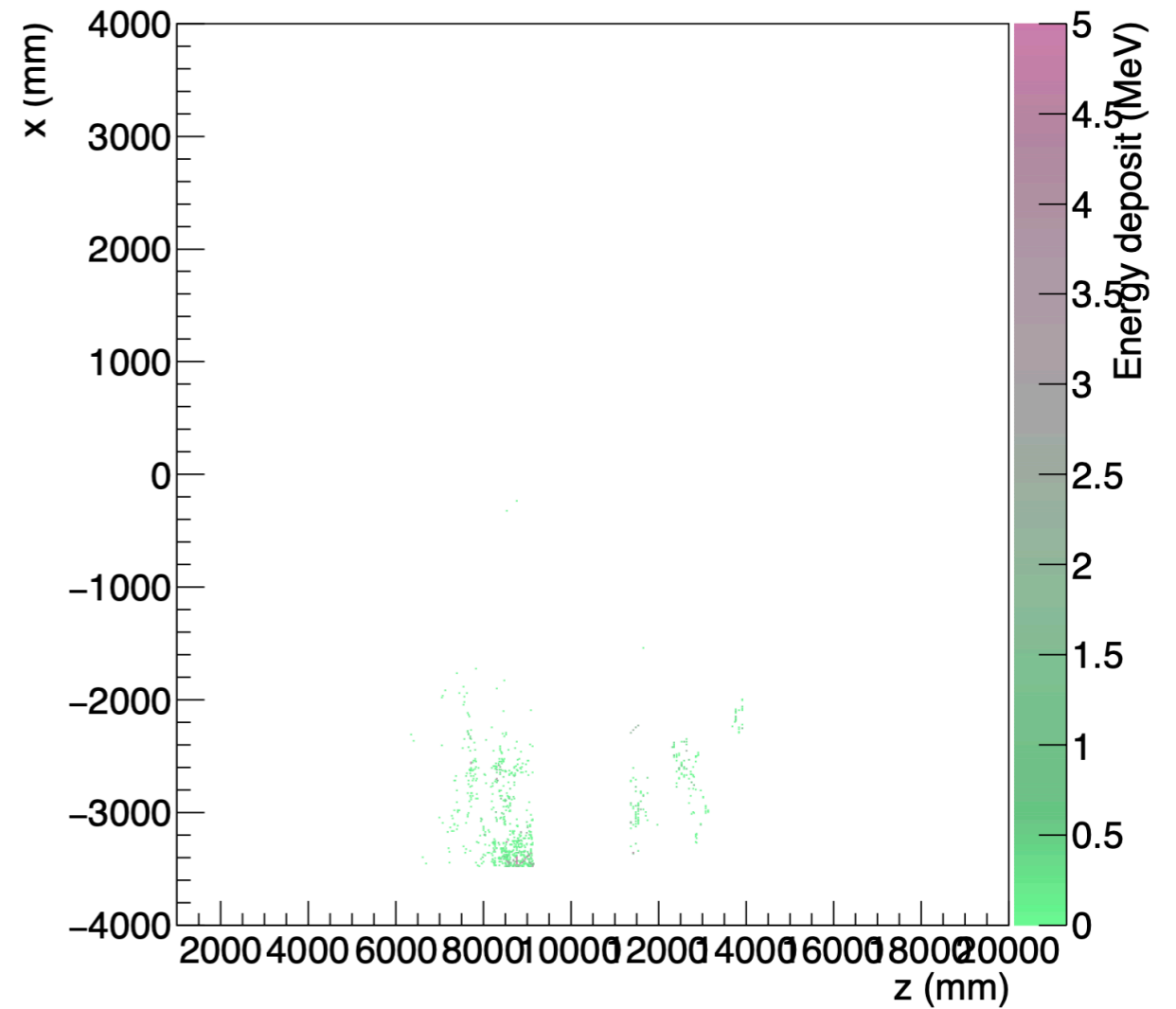


Tracks are not matching in LAr and TMS

LAr_1029_2 TMS_1029_1

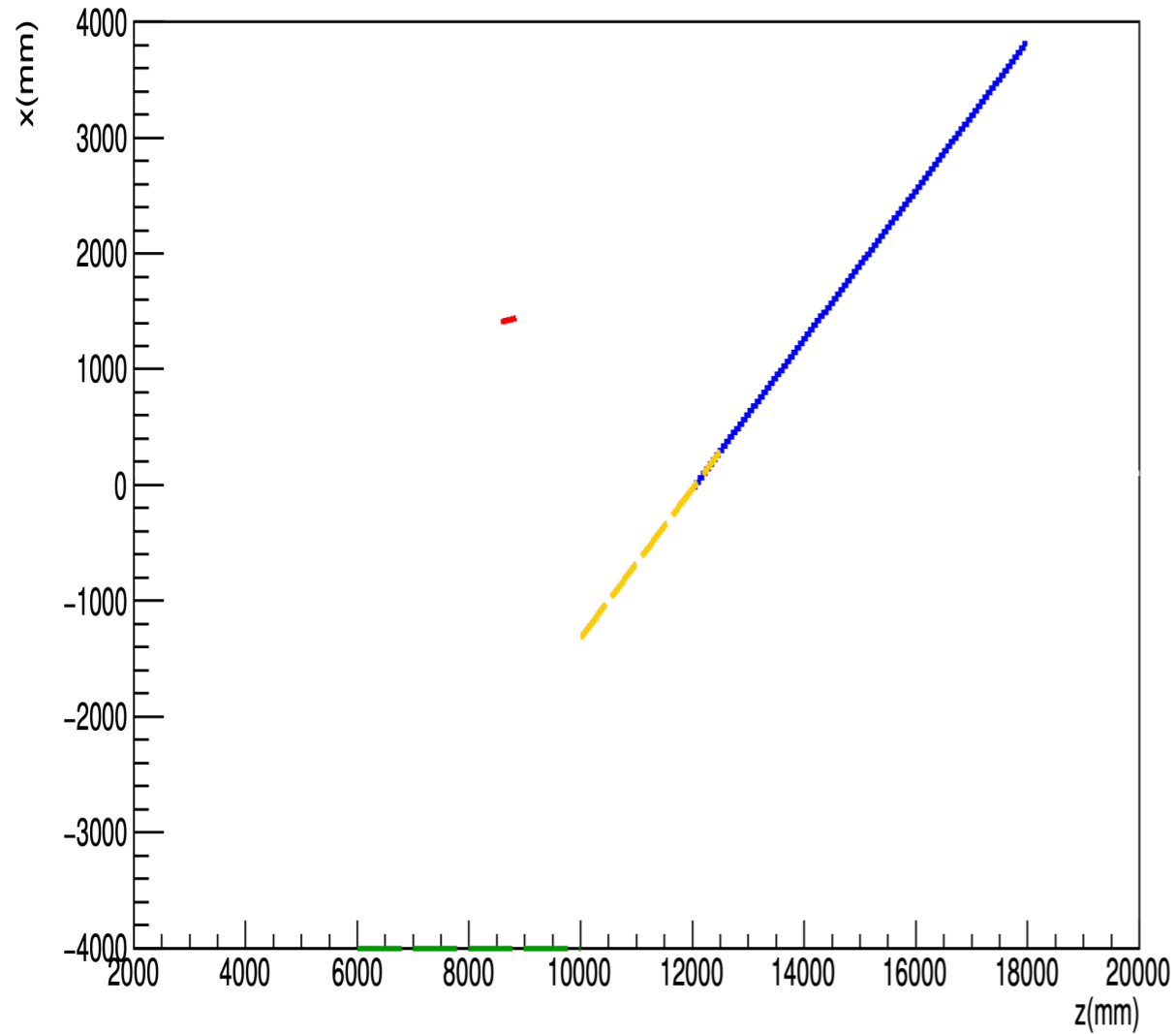


Event Number 1029

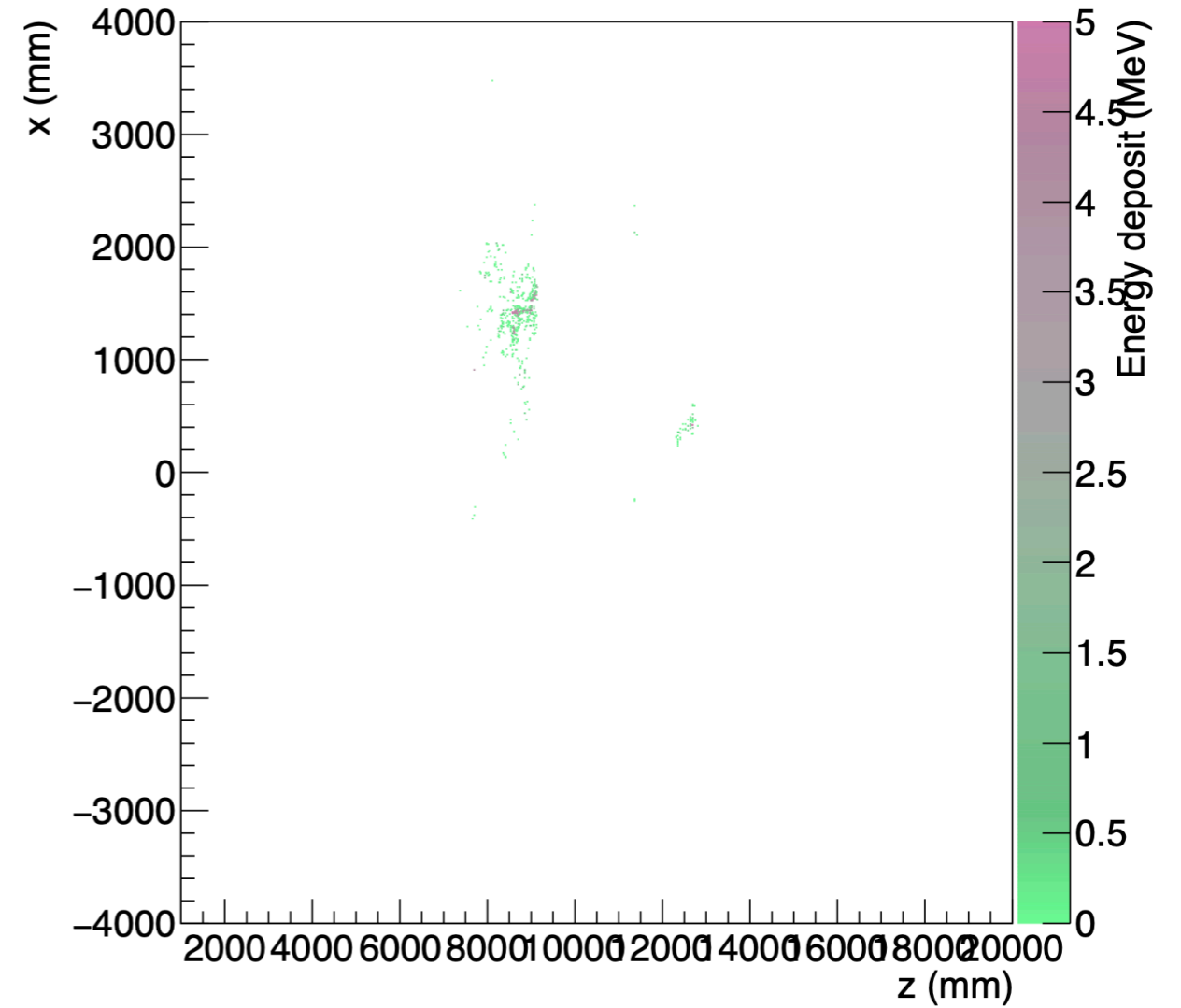


Tracks are not matching in LAr and TMS

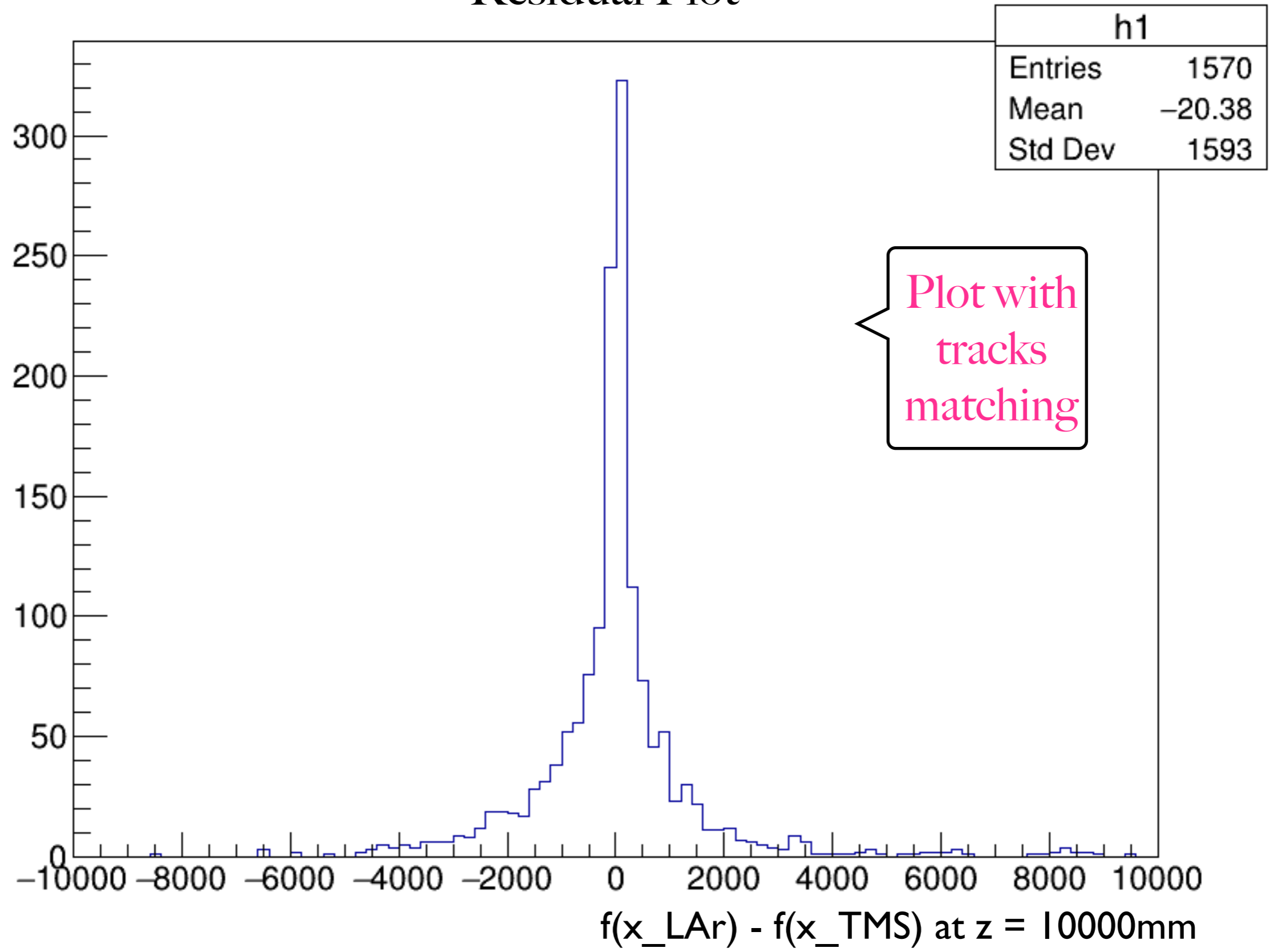
LAr_1310_1 TMS_1310_1



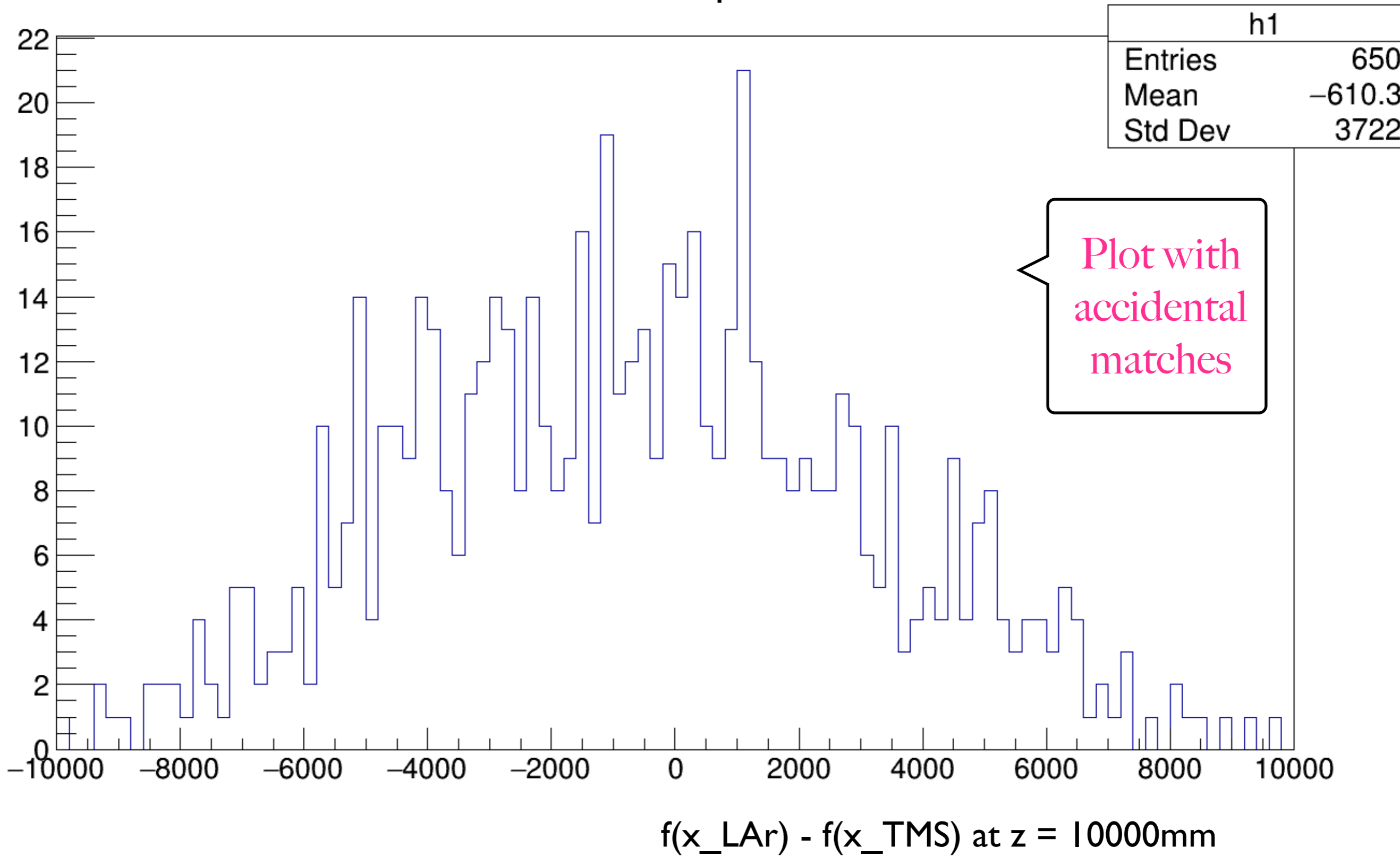
Event Number 1310



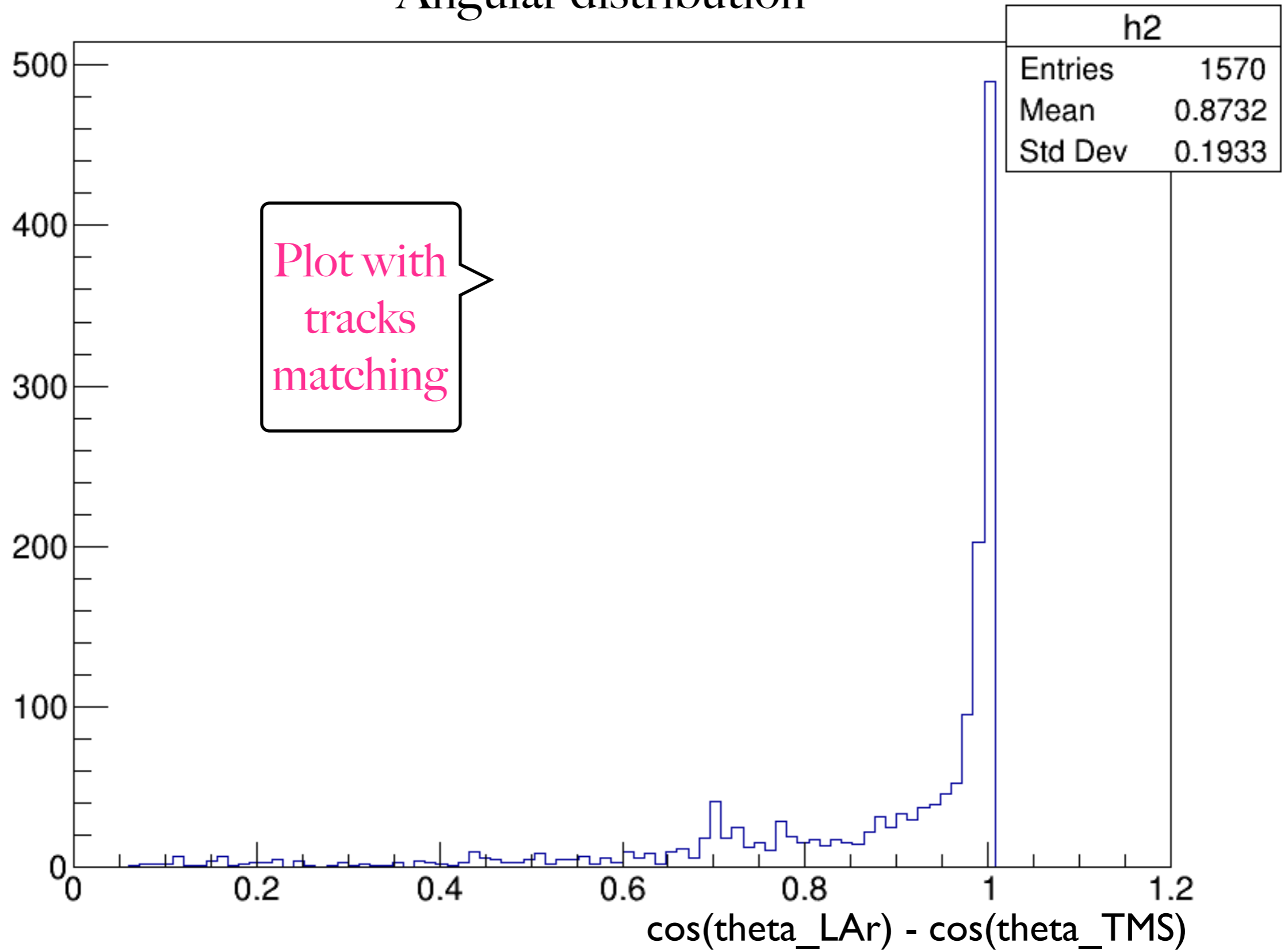
Residual Plot



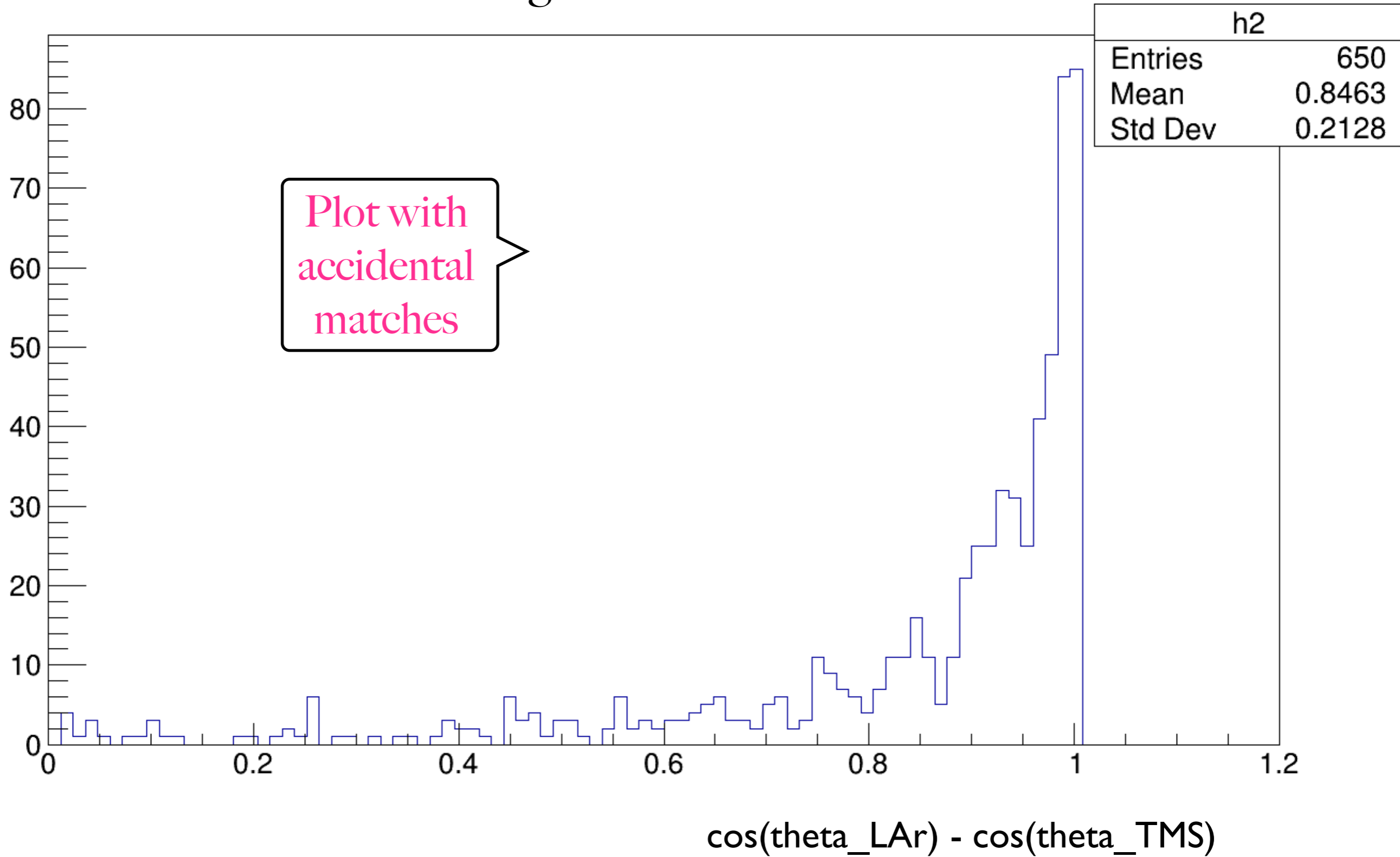
Residual plot



Angular distribution



Angular distribution



x-dist_angle

