# Application of Deep Learning at Beam Calorimeter region

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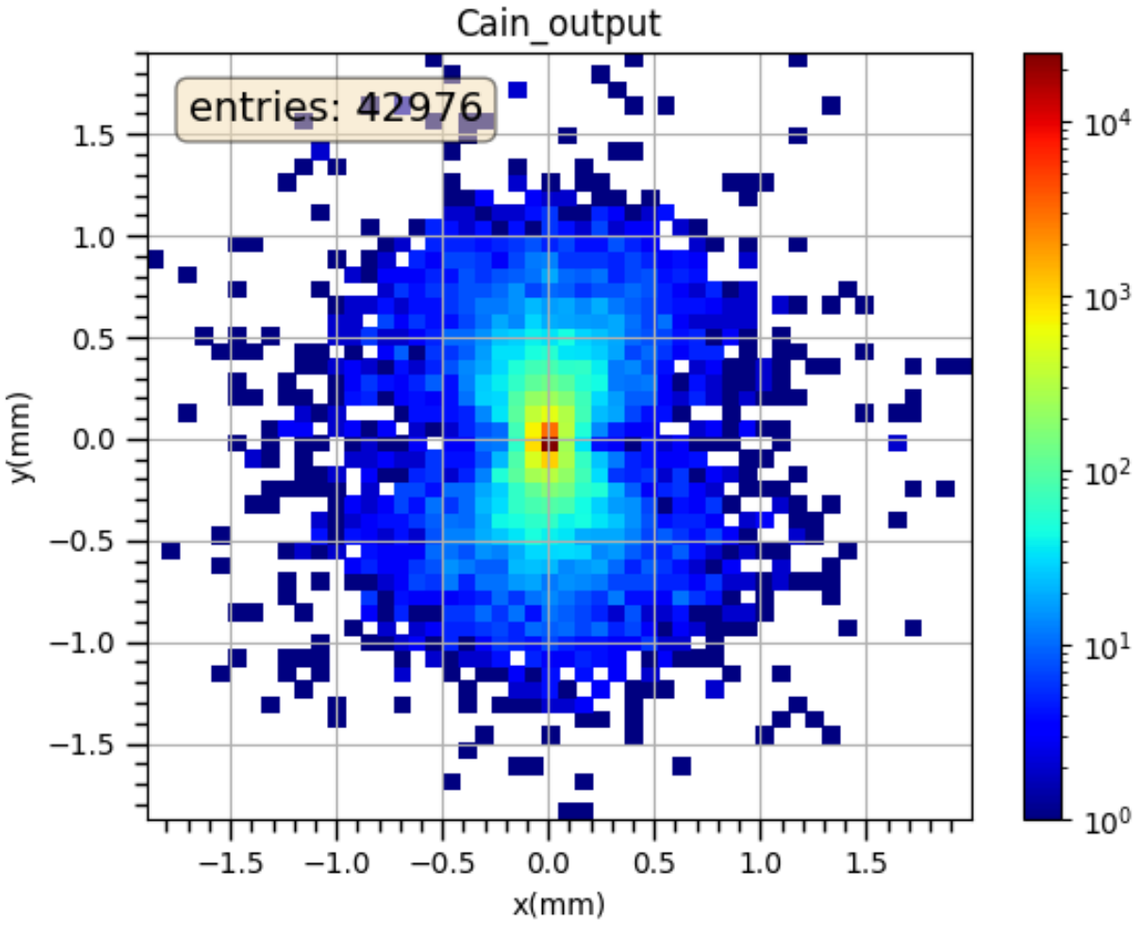
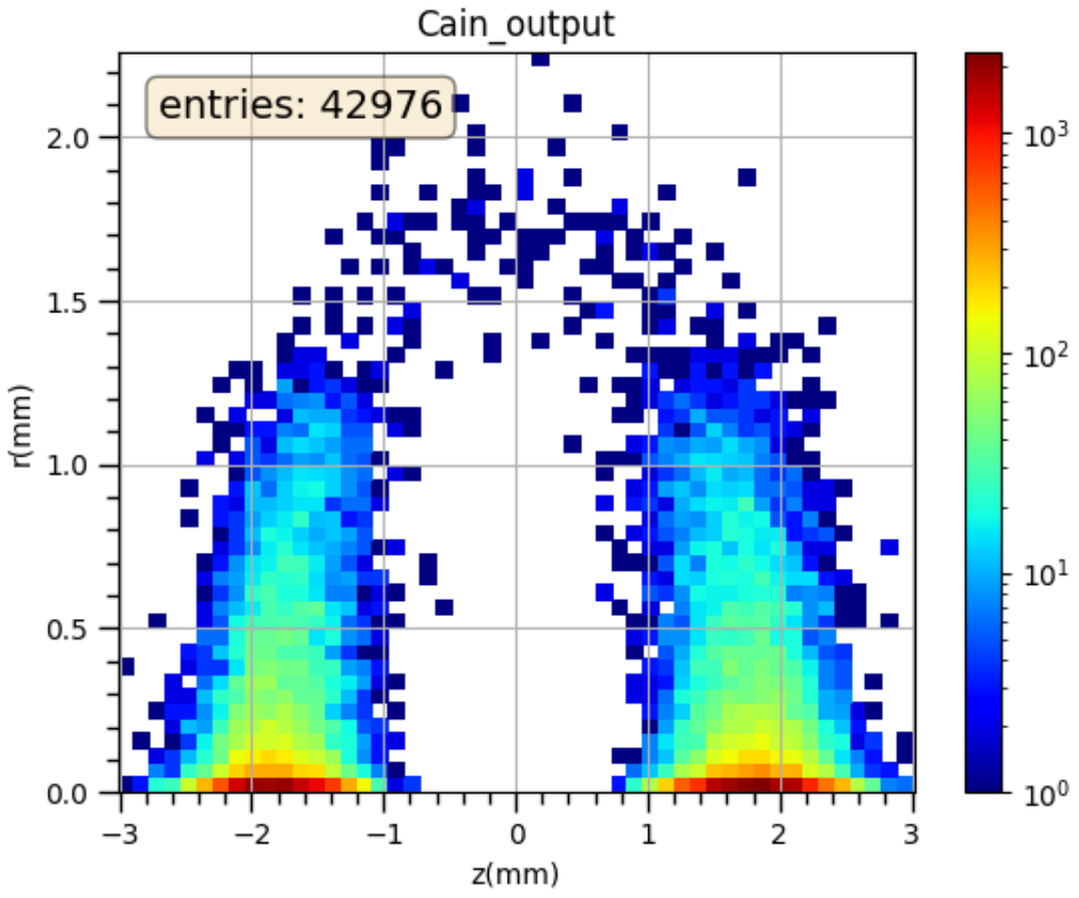
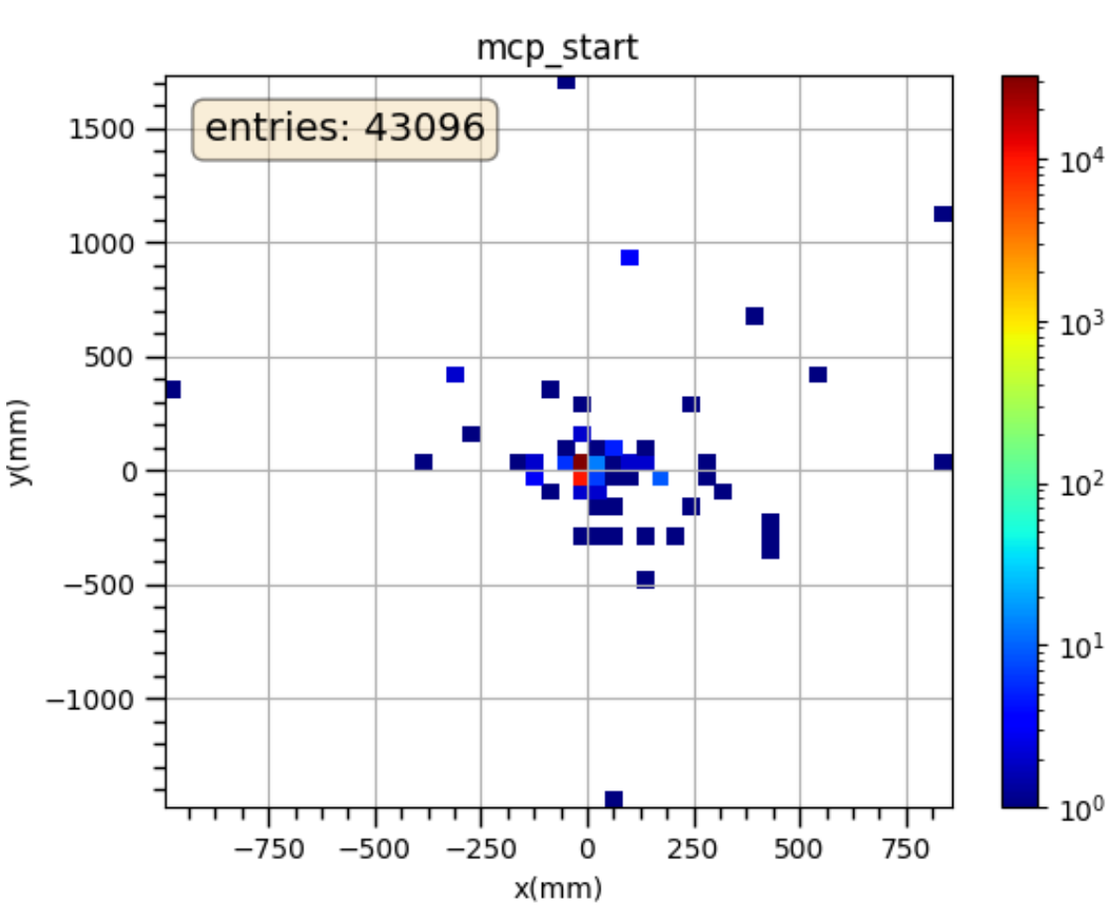
June 17

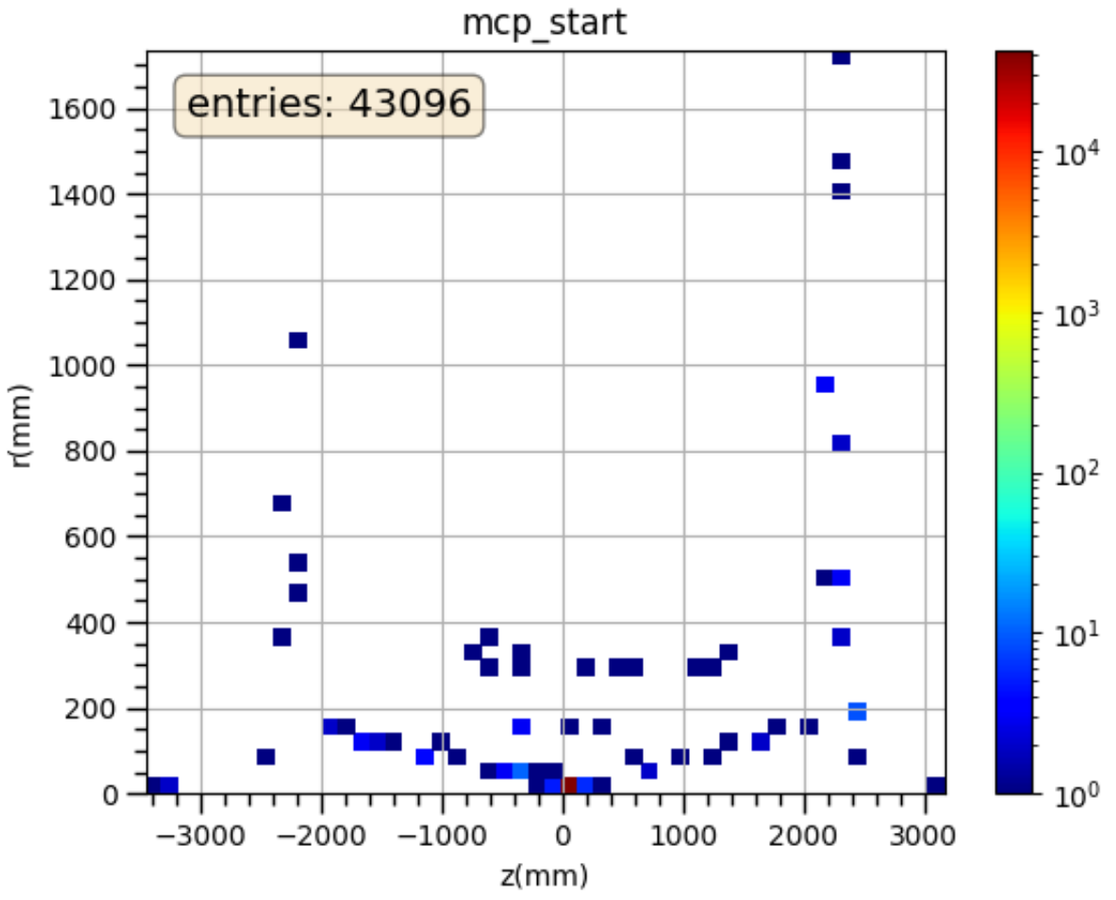
# Cain Simulation Plots



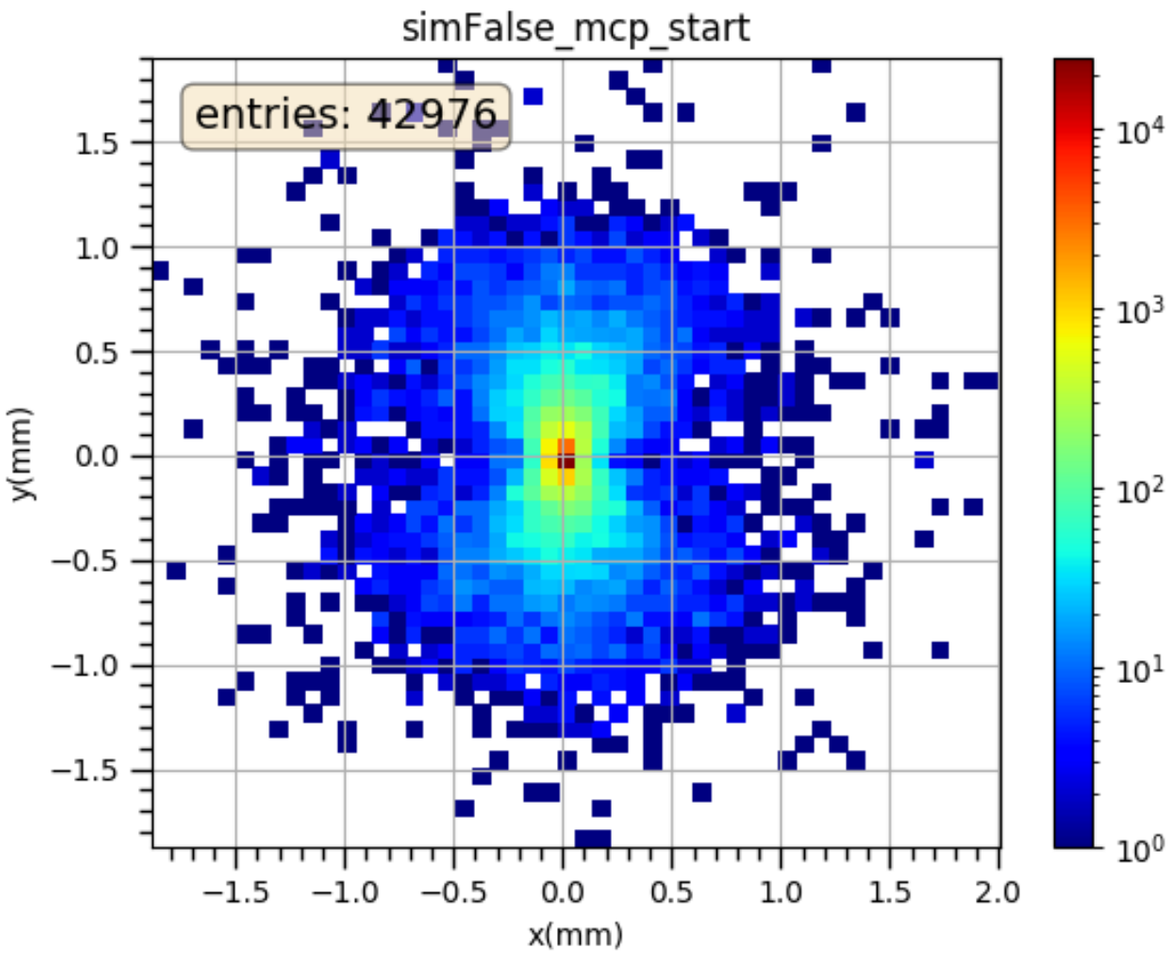



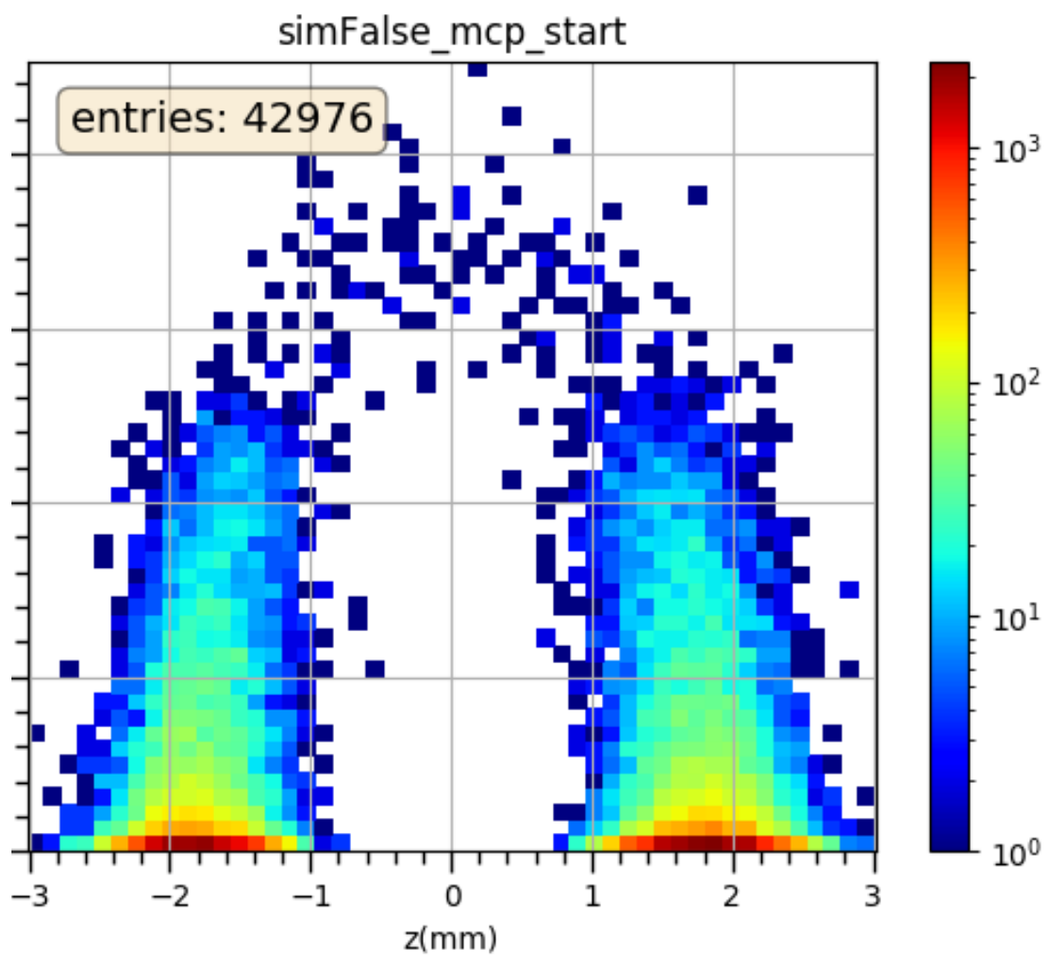
# Plots after Geant simulation (At Start point)



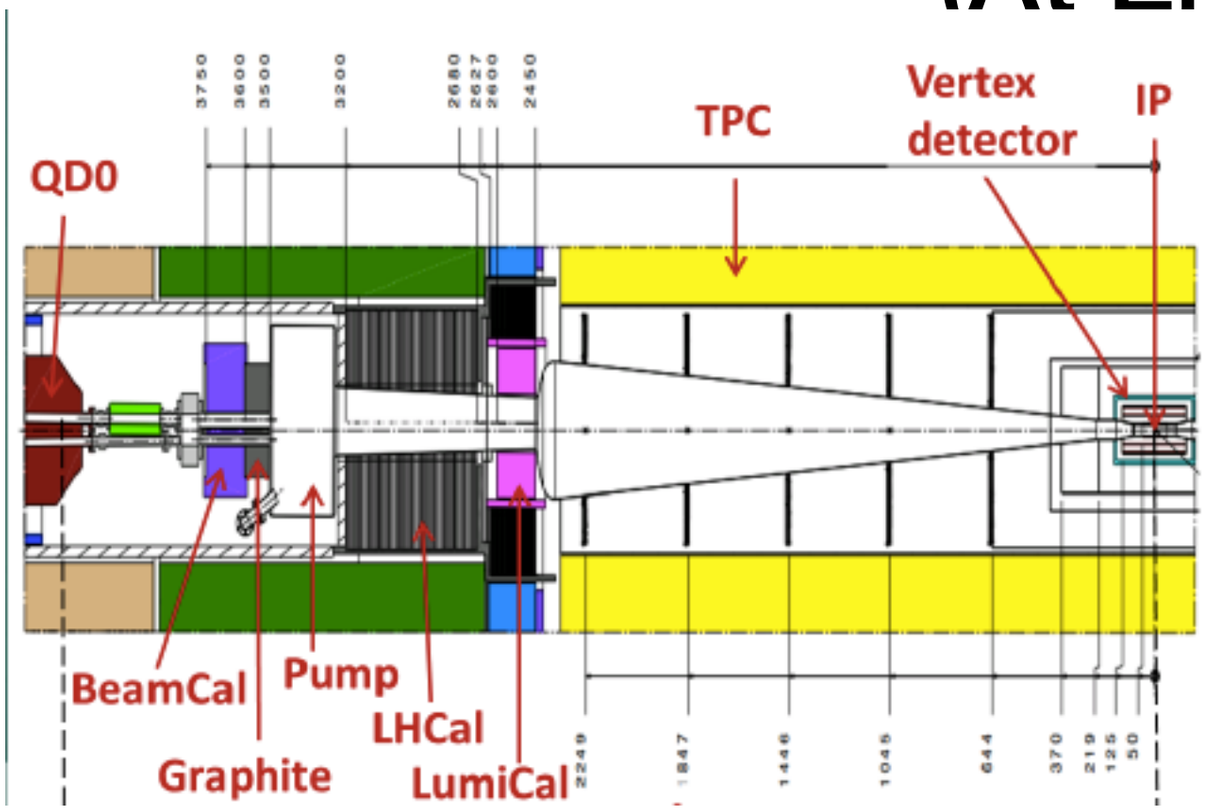



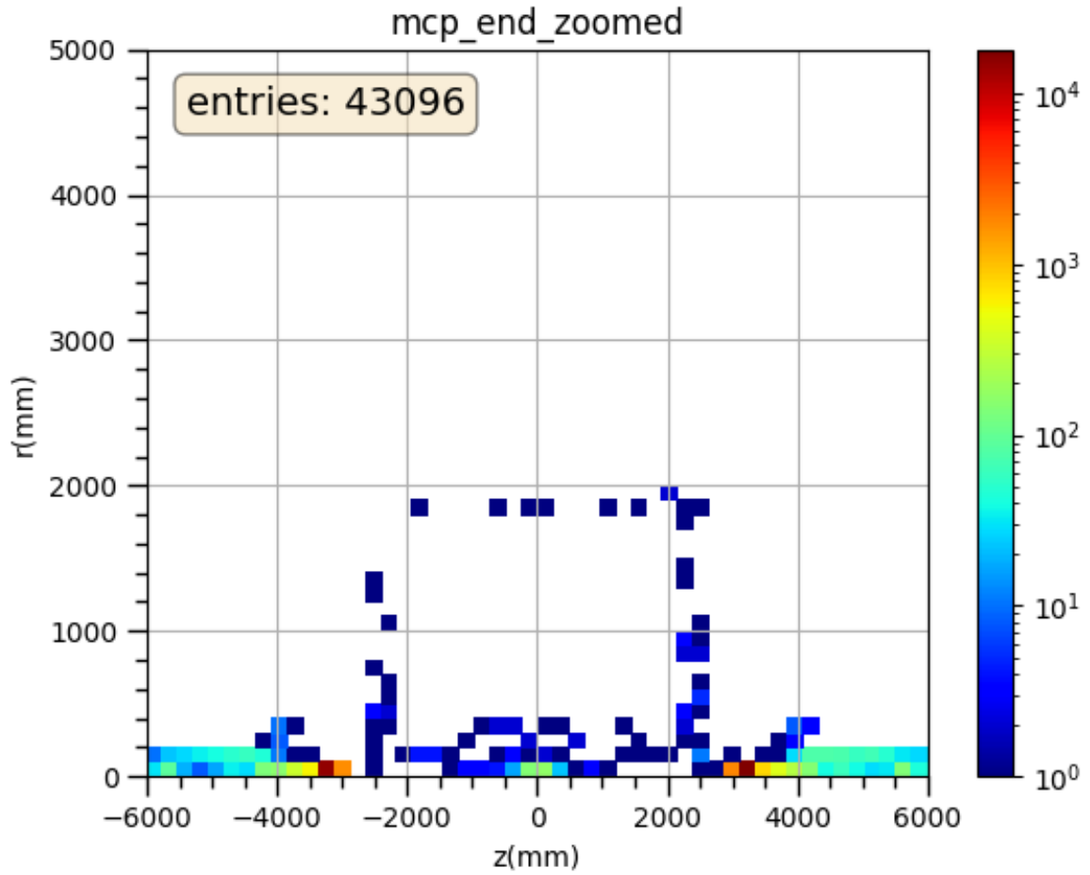
# Plots after Geant simulation (At Start Point excluding simulated particles)

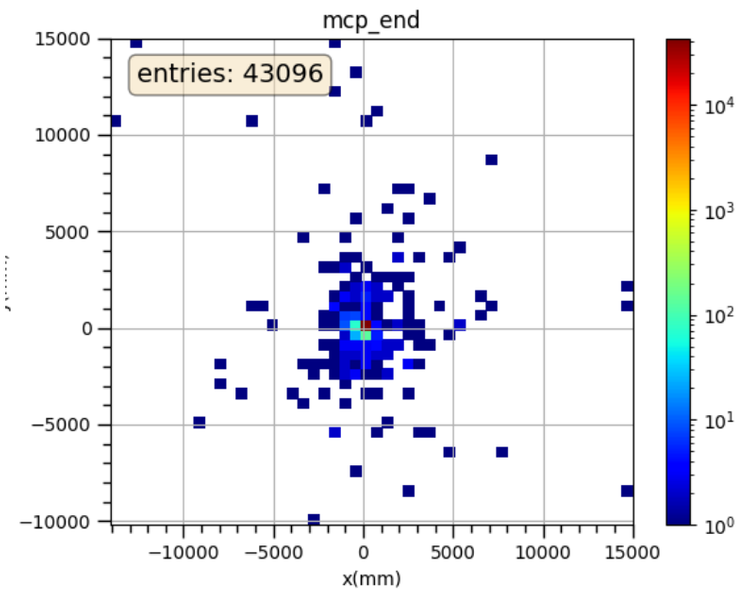


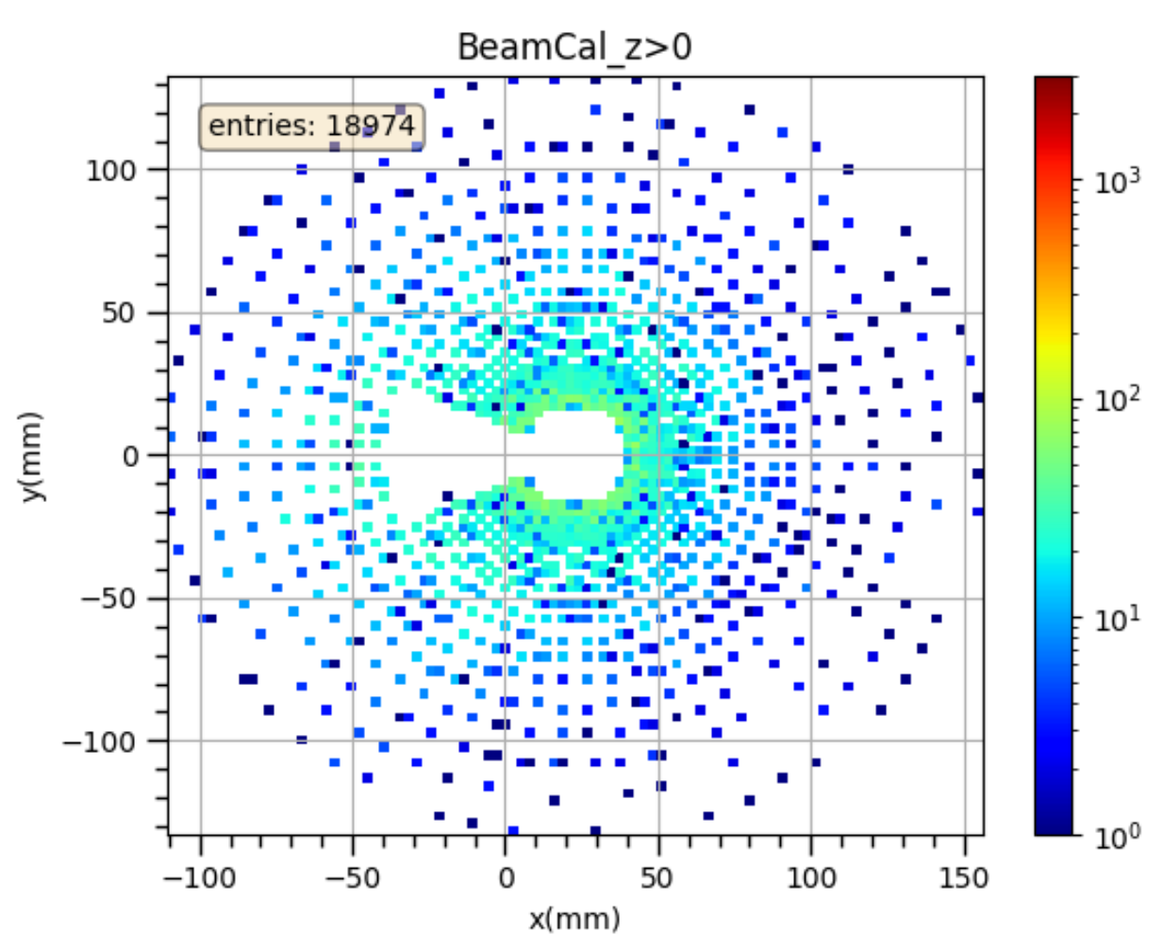
# Plots after Geant simulation (At EndPoints)

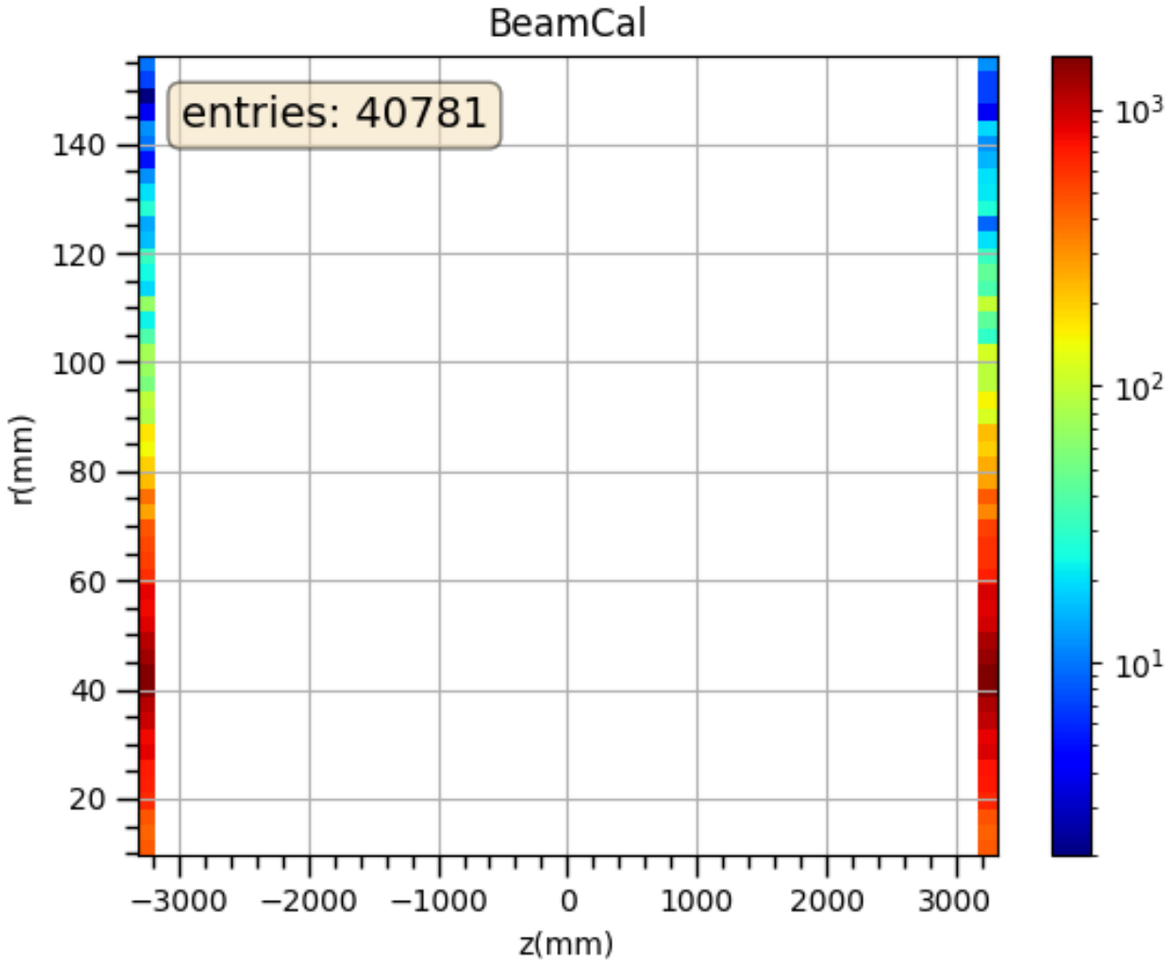


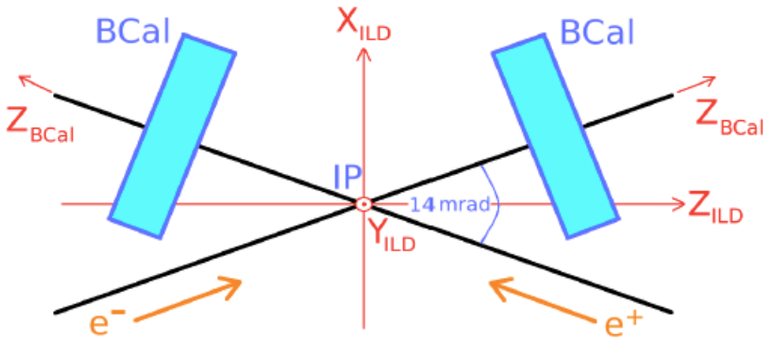



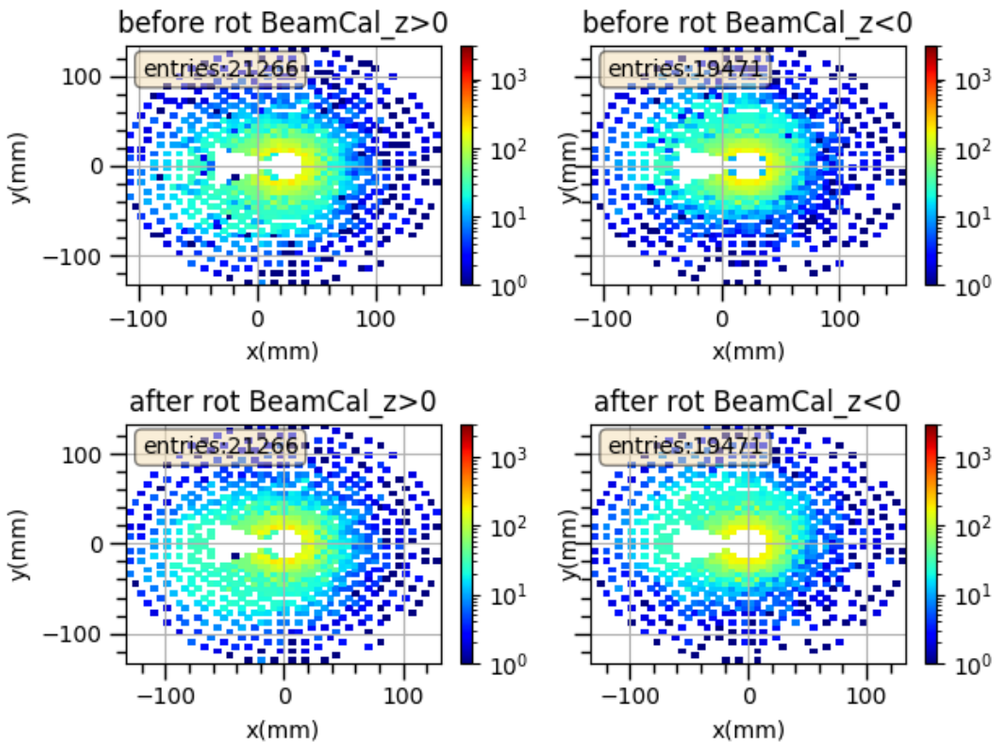
# At Beam Calortimeter



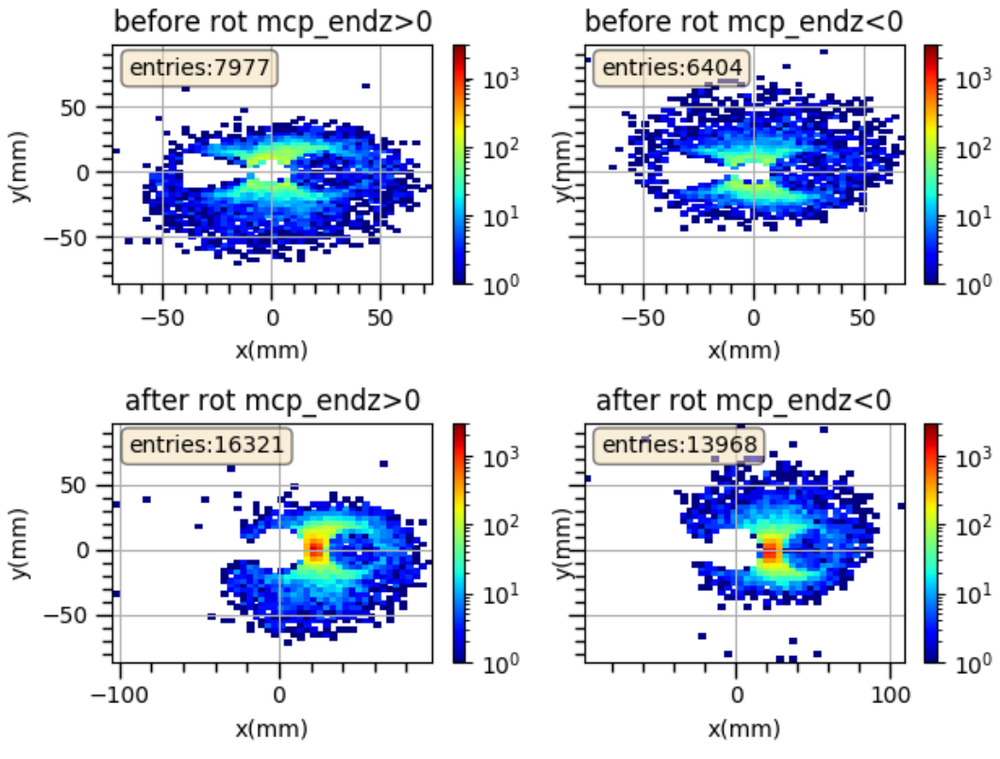



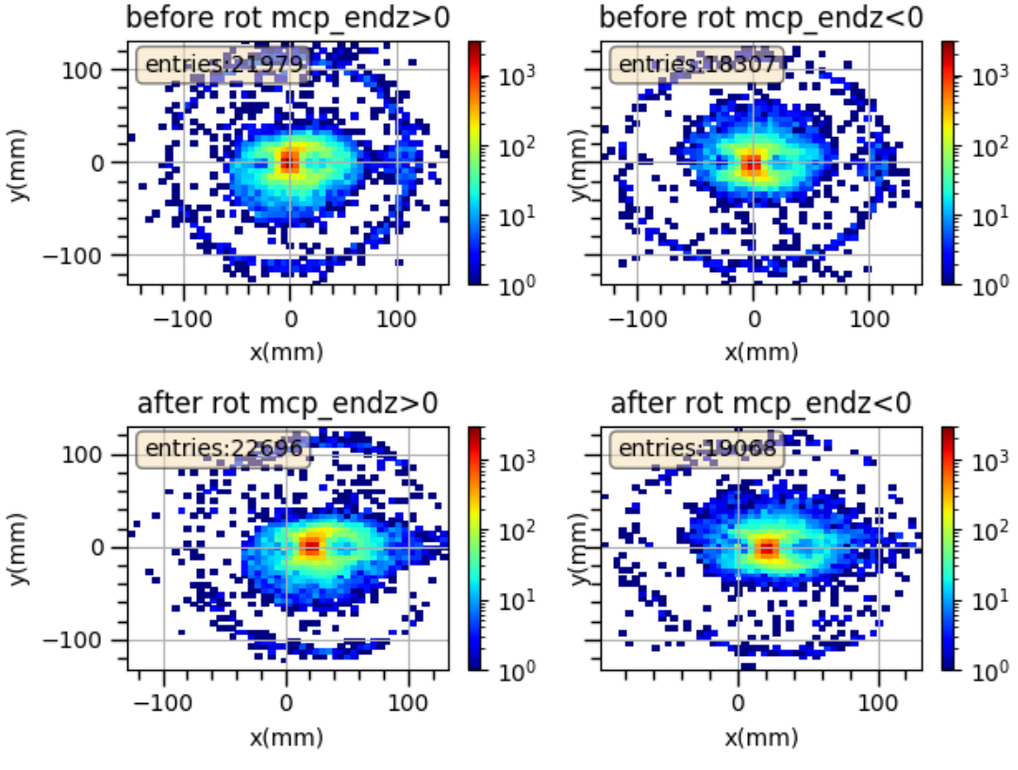
# BeamCal axis to ILD axis



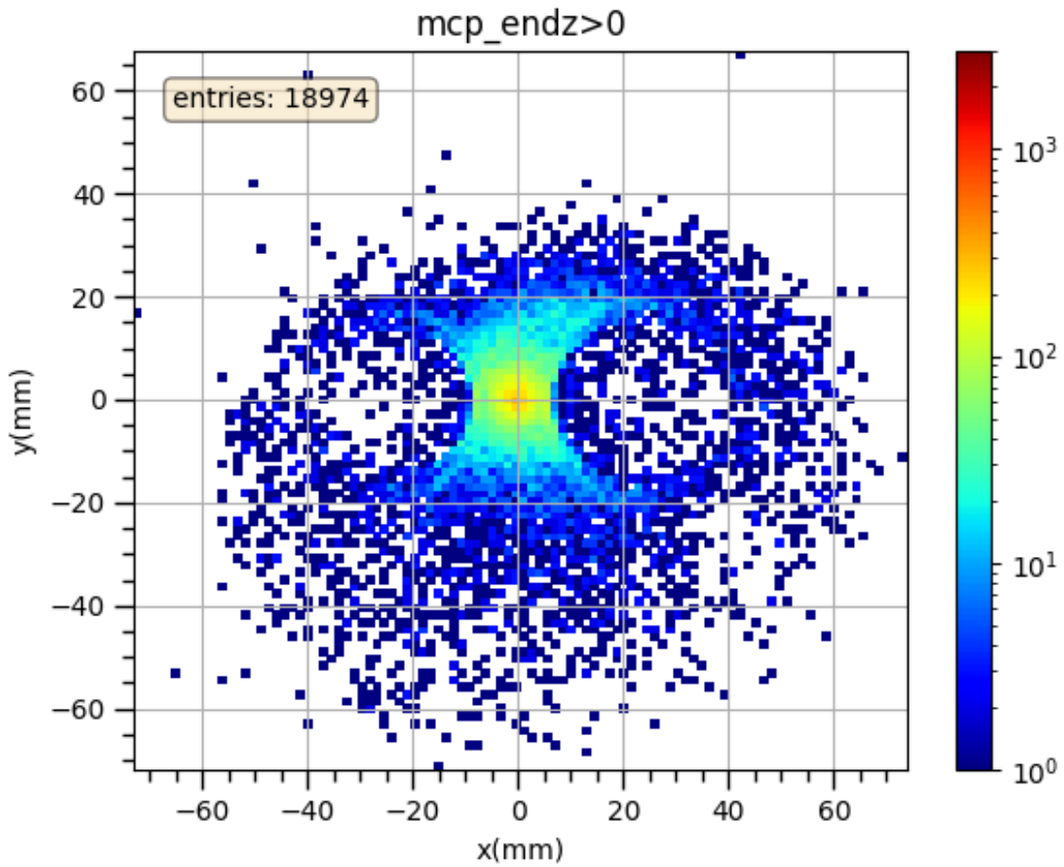

**After inner radius cut**



# Apply BeamCal Cut to MCP

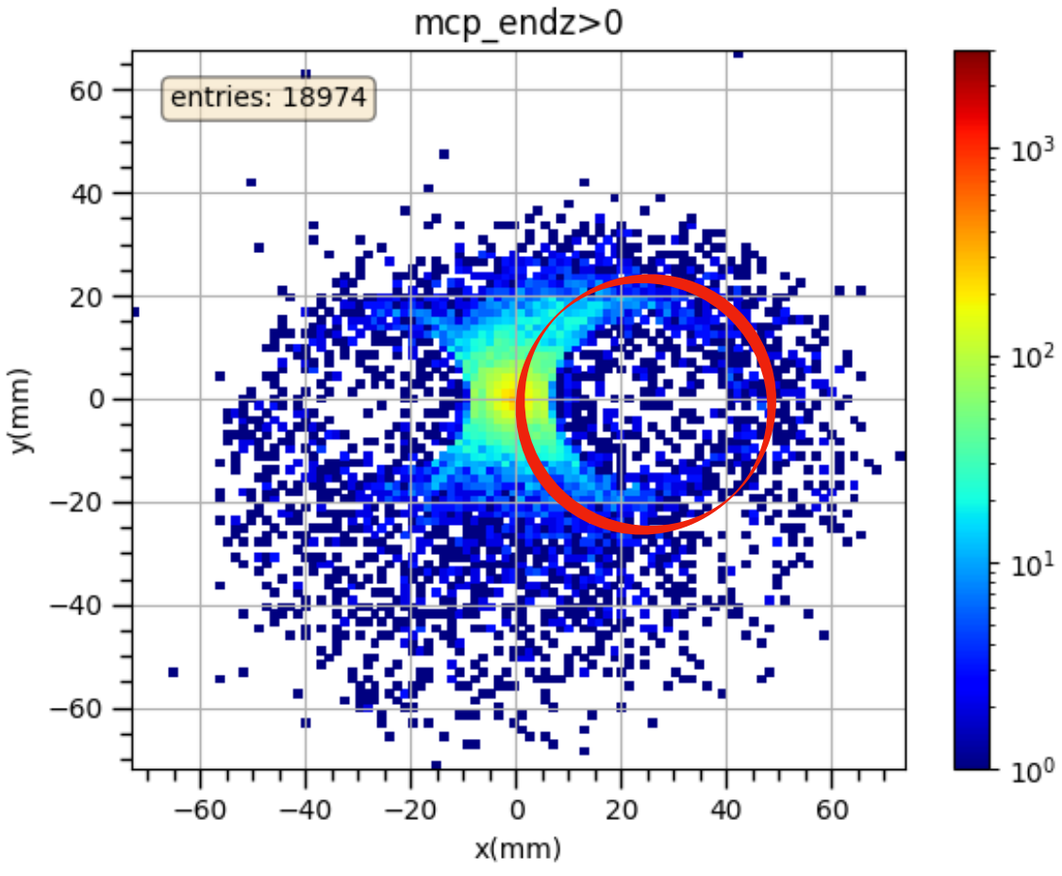
## Beam Cal outer radius cut

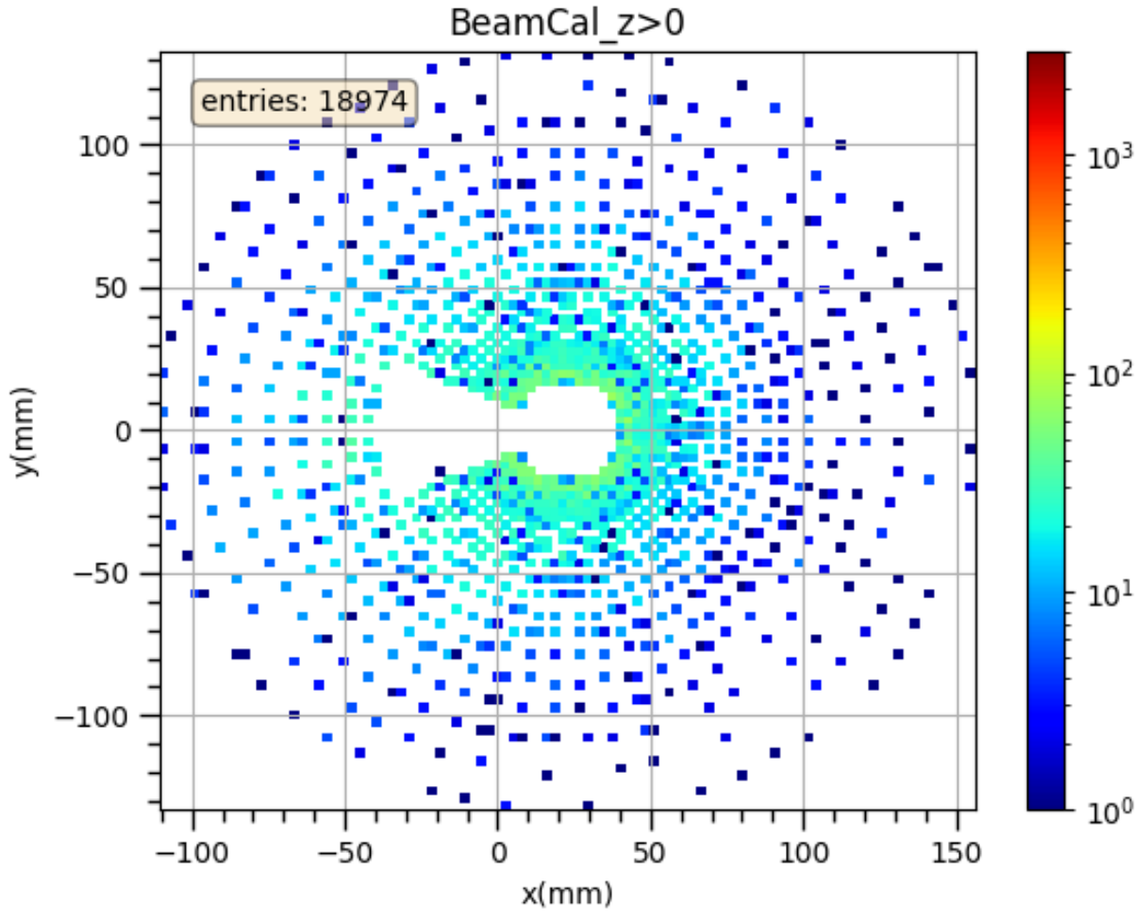


# Apply BeamCal Cut to MCP

**why are most particles not from the beam pipe?**

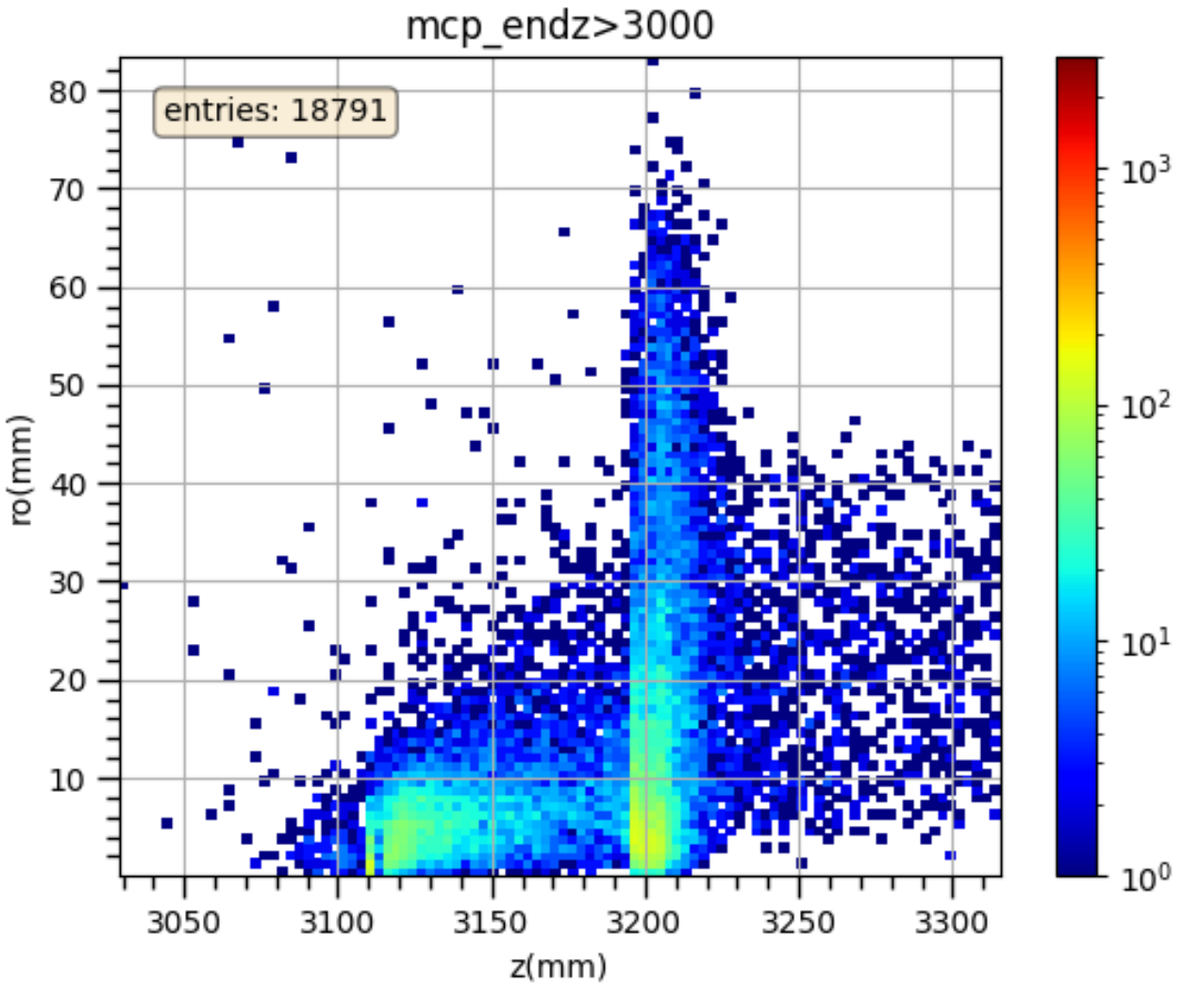
**why does BeamCal distribution do not match with that of mcp?**
**why does BeamCal distribution do not match with that of mcp? Due to noise?**

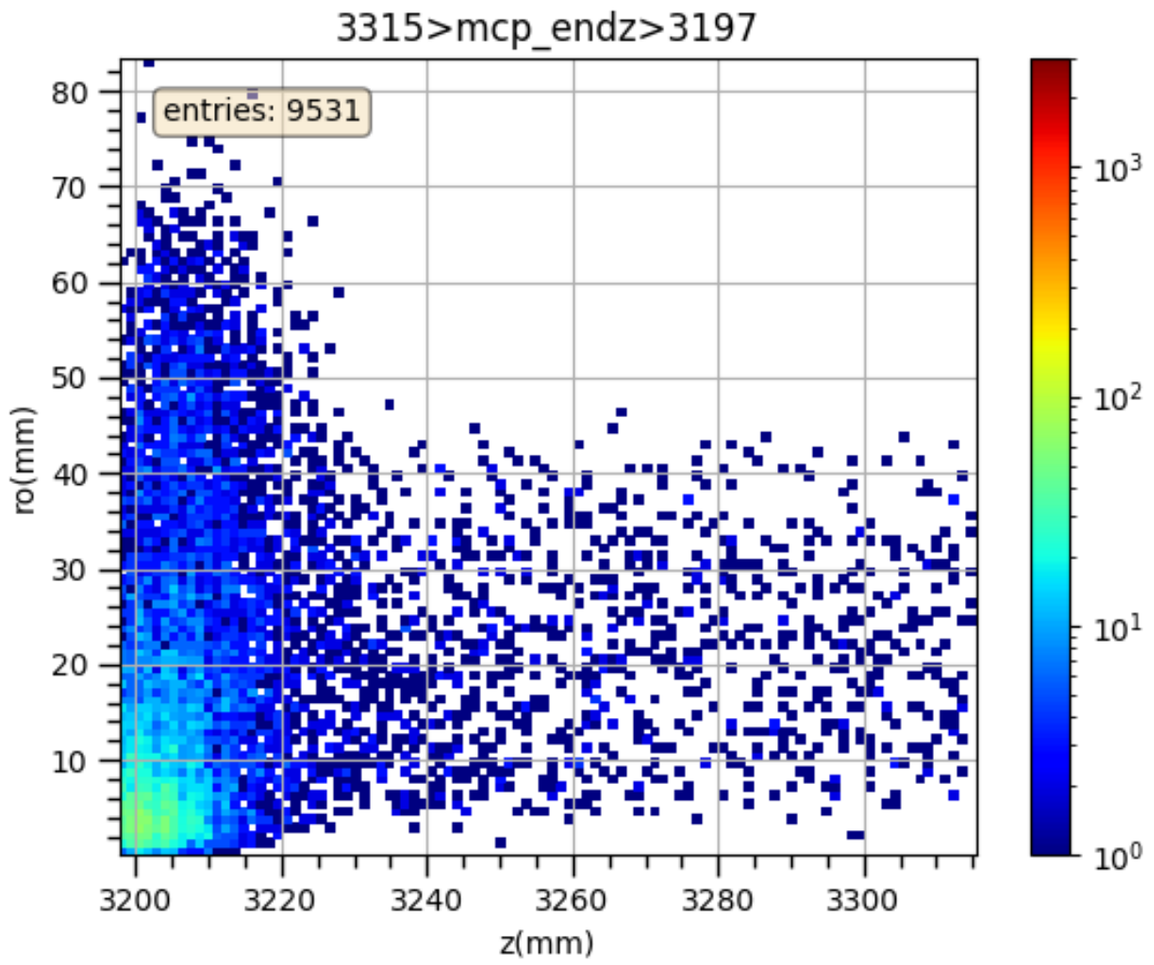


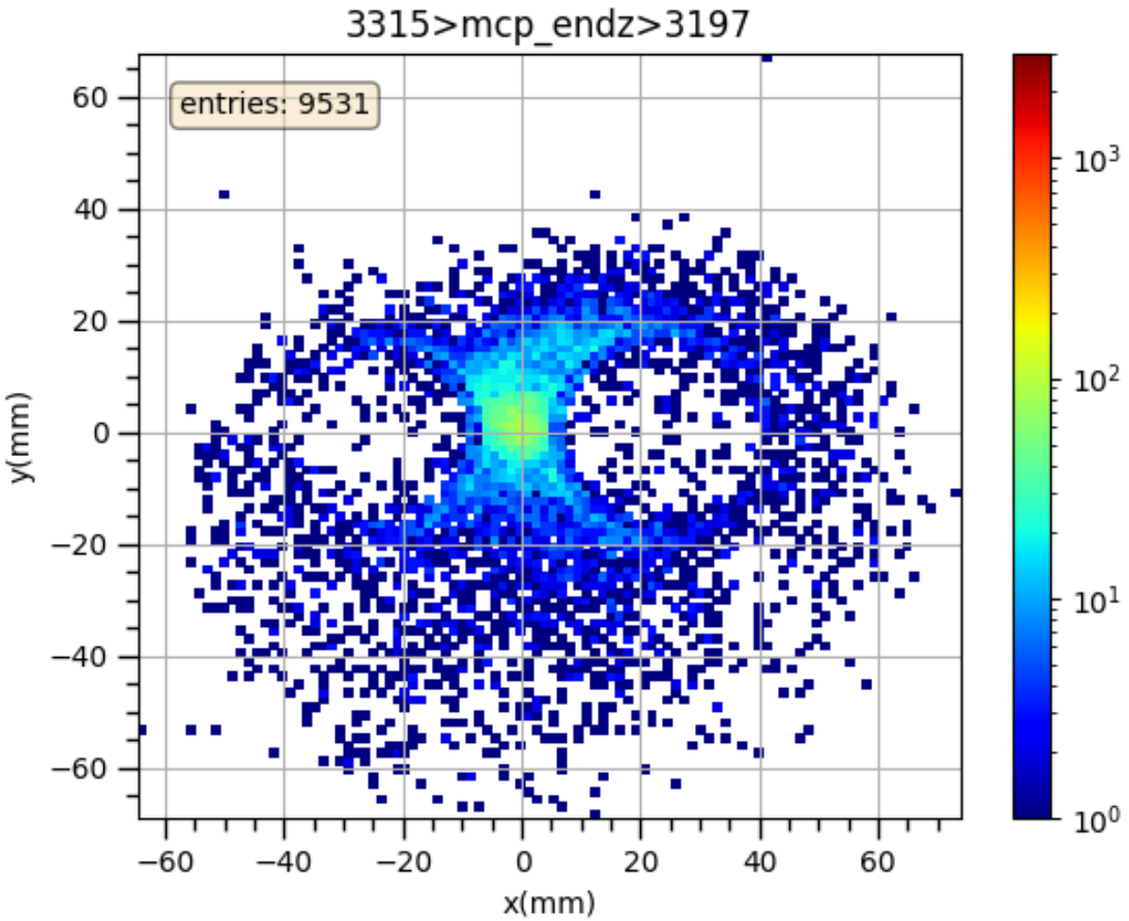
# Apply BeamCal Cut to MCP

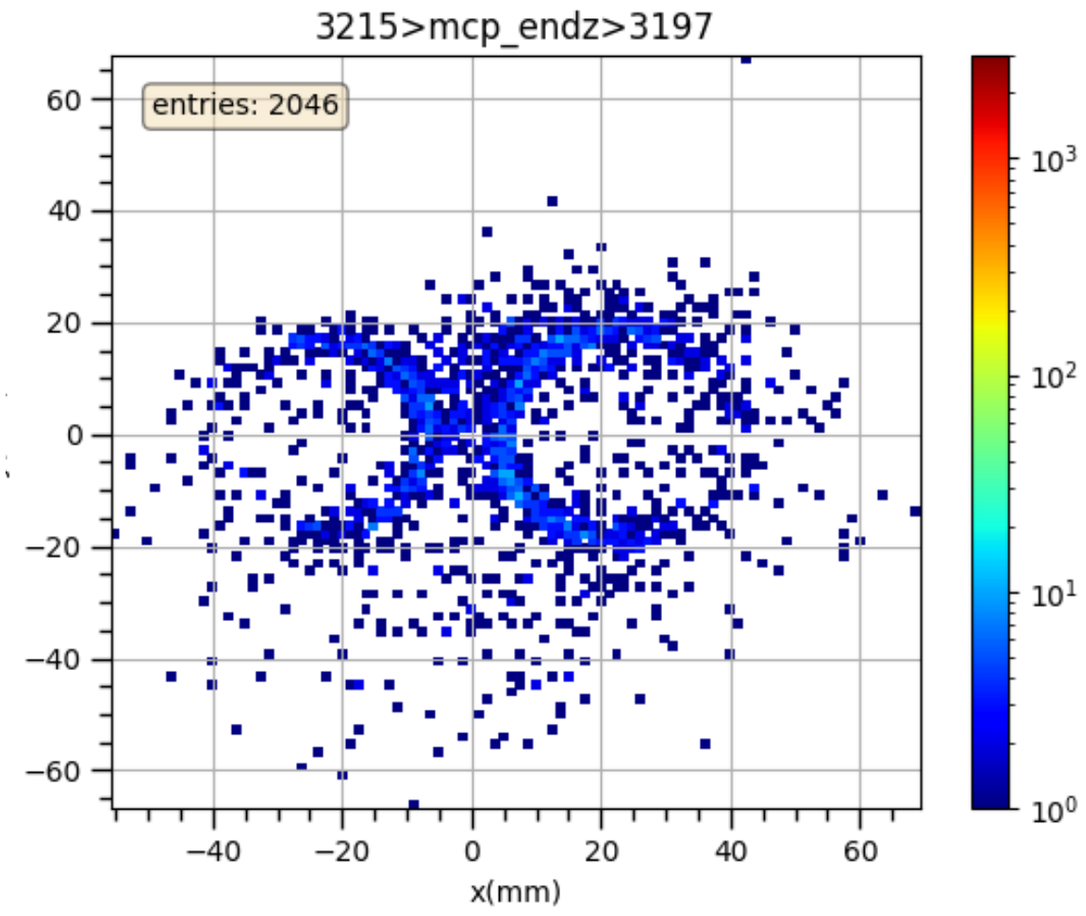
**BeamCal maximum positive value 3315, minimum value 3197**



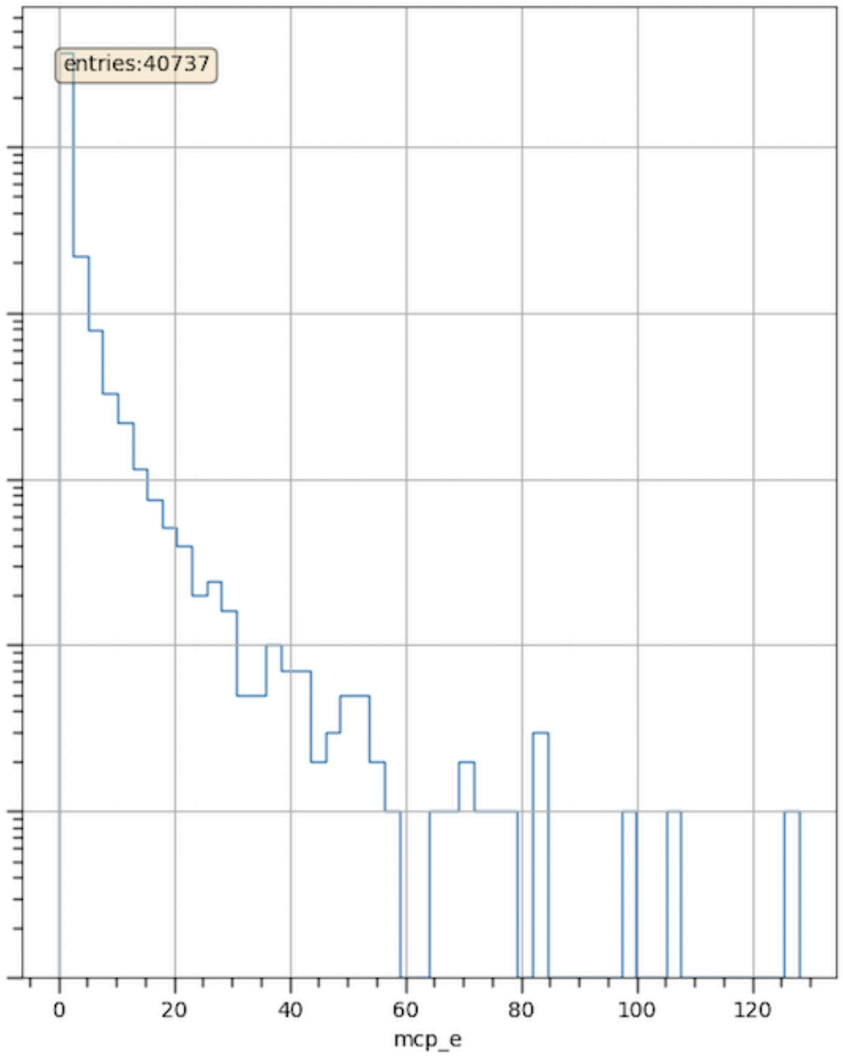
# Within Beam Cal

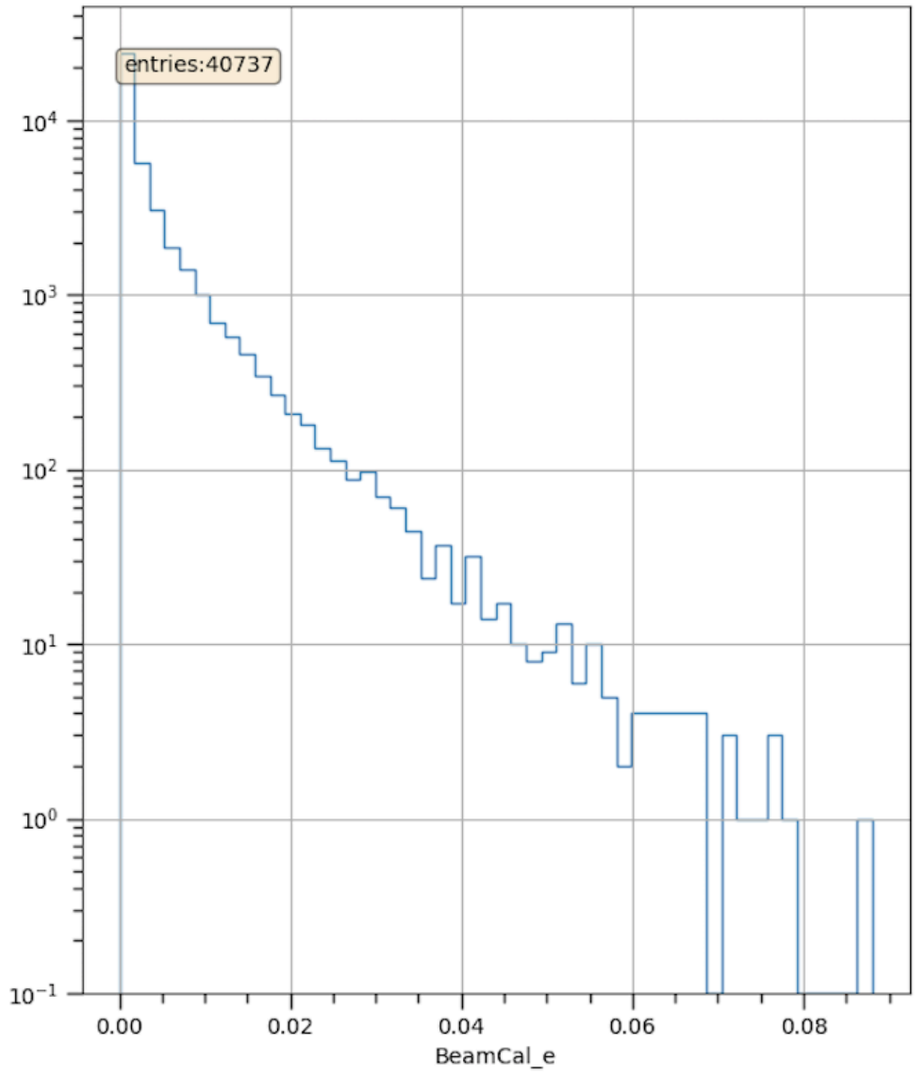


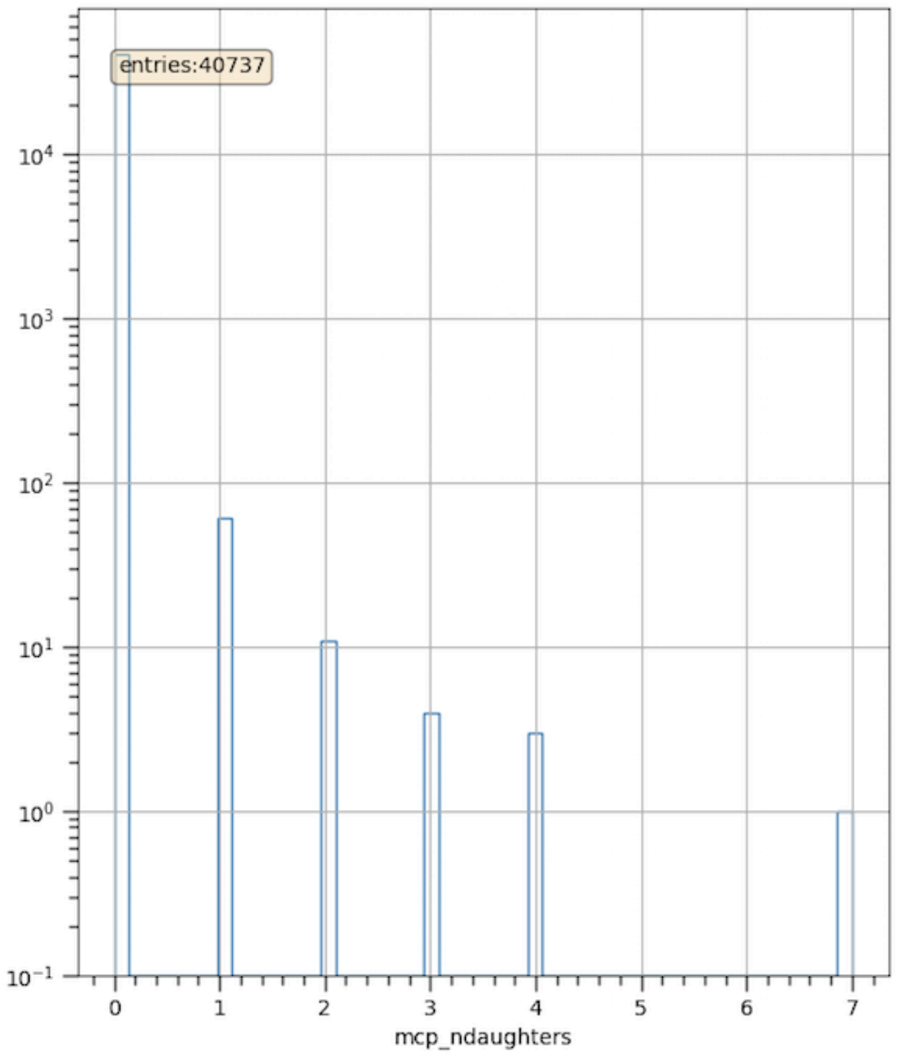
# BeamCal Energy very low

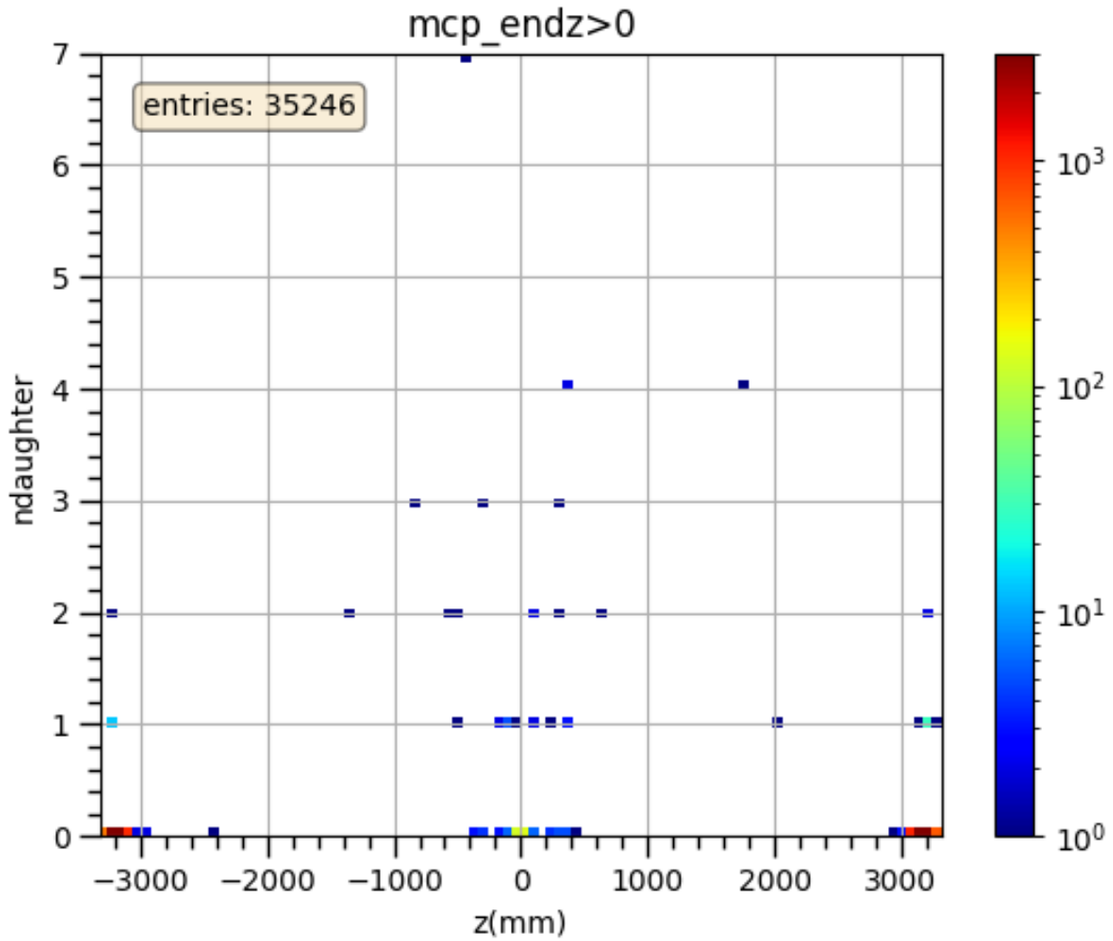
**Particles escaping through BeamPipe?**



# MCP daughter particle very low number (only 77)



# Cain out put need to be boosted before Geant?