# (e,e’p) acceptance MAP for e4nu

- Data: Hydrogen (e, e’p) from the Tritium data
- Using the single arm simc to simulate the acceptance map for electron and proton separatedly
- For electron arm: uniformly generated (delta, xp, yp, z_vertex): 4D map:
- For proton arm: Uniformly generated (delta, xp, yp, z_vertex): 4D map
- Acceptance for each 4D bin defined as: Nrecon/Ngen ? Or Naccepted/Ngen?

How to apply to the data:

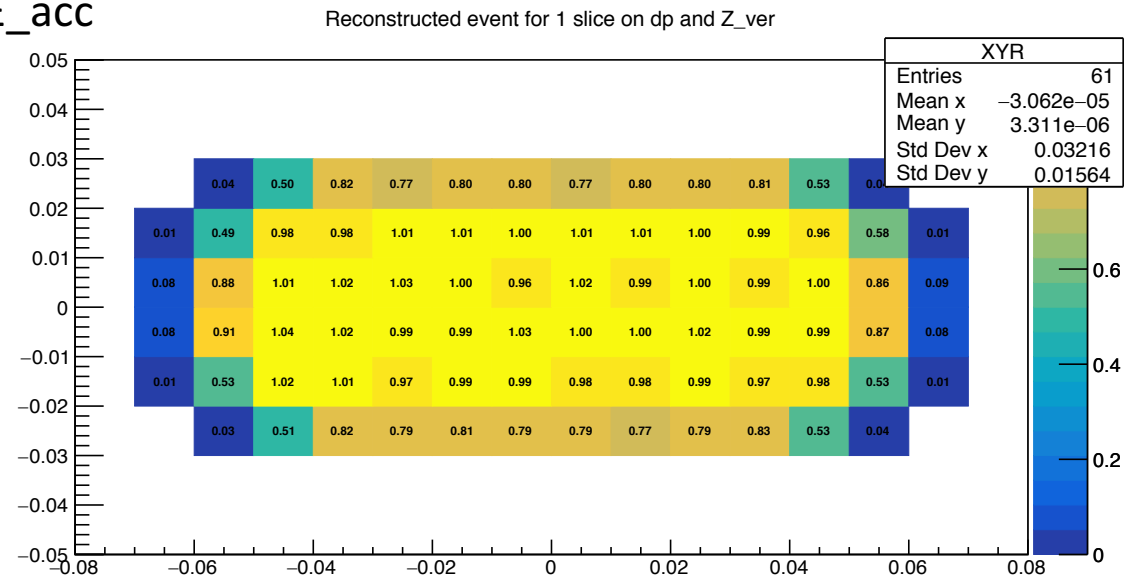
- For every coinc event (e, e’p) in Hydrogen data: have to apply the cuts to make sure particle e (p) are accepted in both arm

- Check e(delta, xp, yp, Z_vertex) for that event on E_arm -> get E_acceptance
- Check p(delta, xp, yp, z_vertex) for that event on P_arm -> get P_acceptance
- => Total weighting acceptance for that event = E_acceptance * P_acceptance

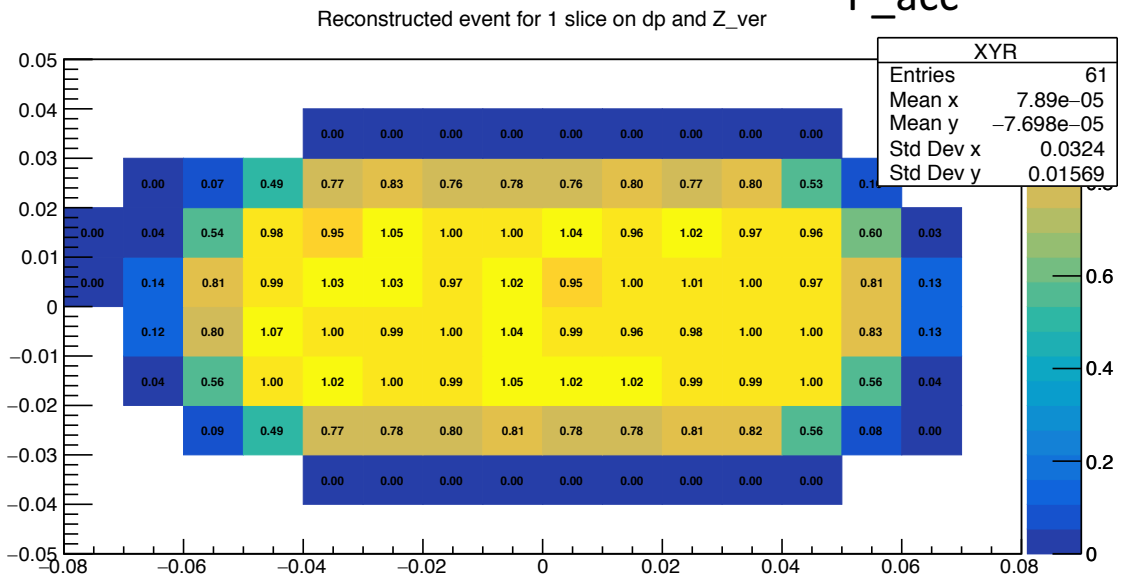
# Check the e_acc and p_acc for a slides of dp, Vz

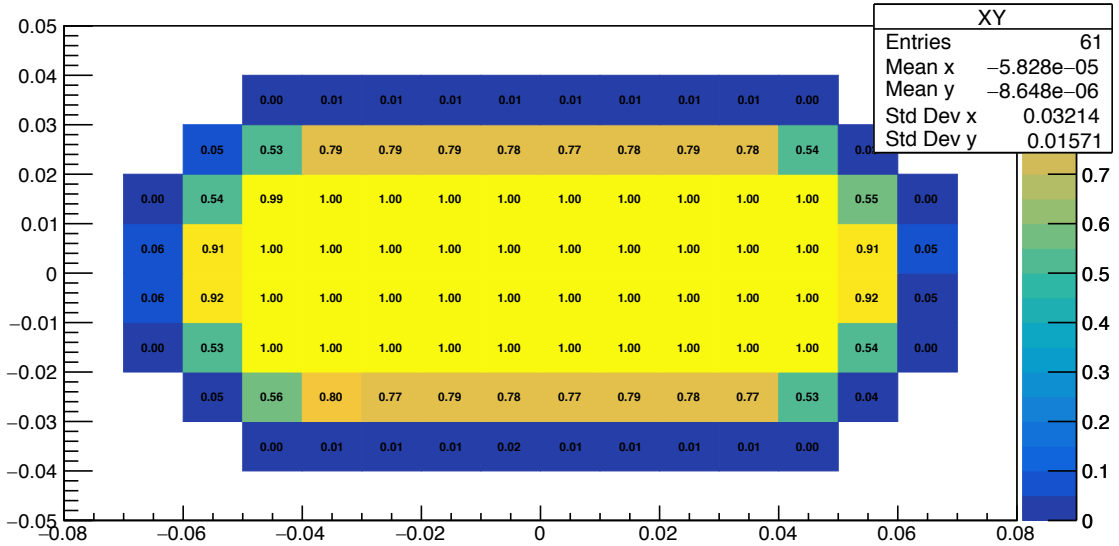
## Center dp (-0.5 -> 0.5% ), center Vz (-1 -> 1cm )

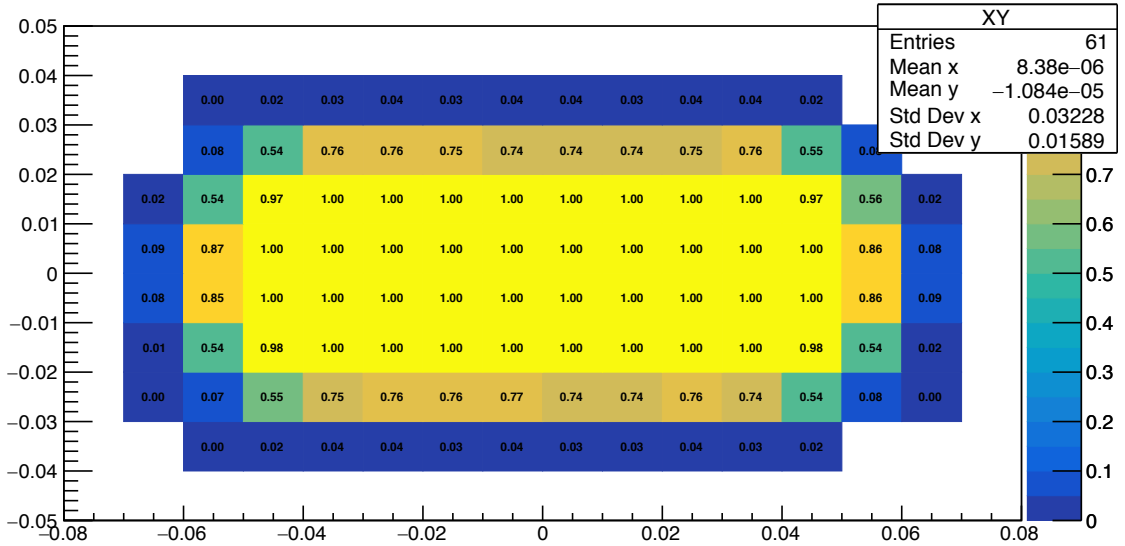
E_acc



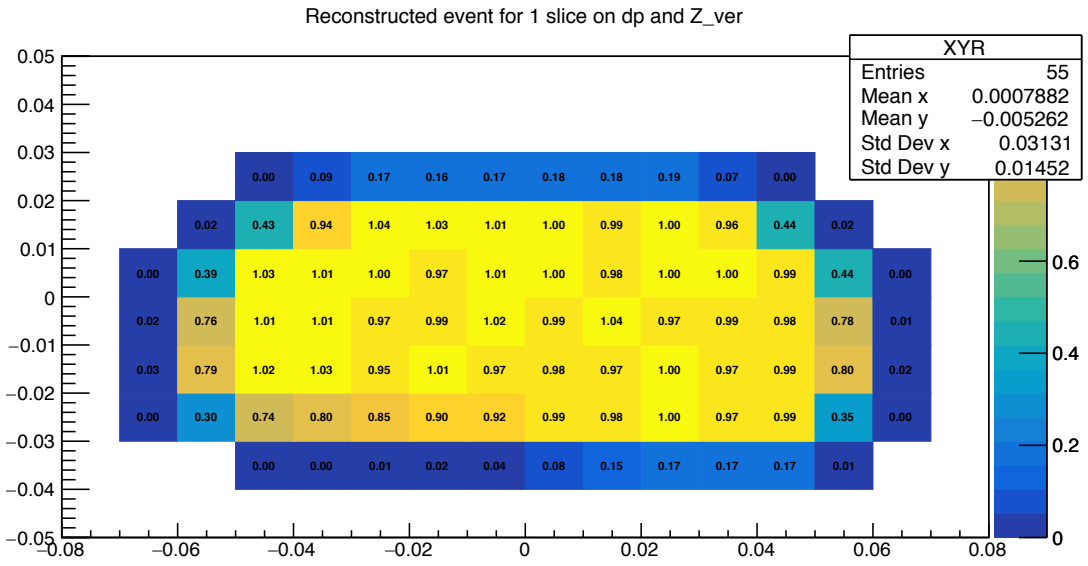

P_acc

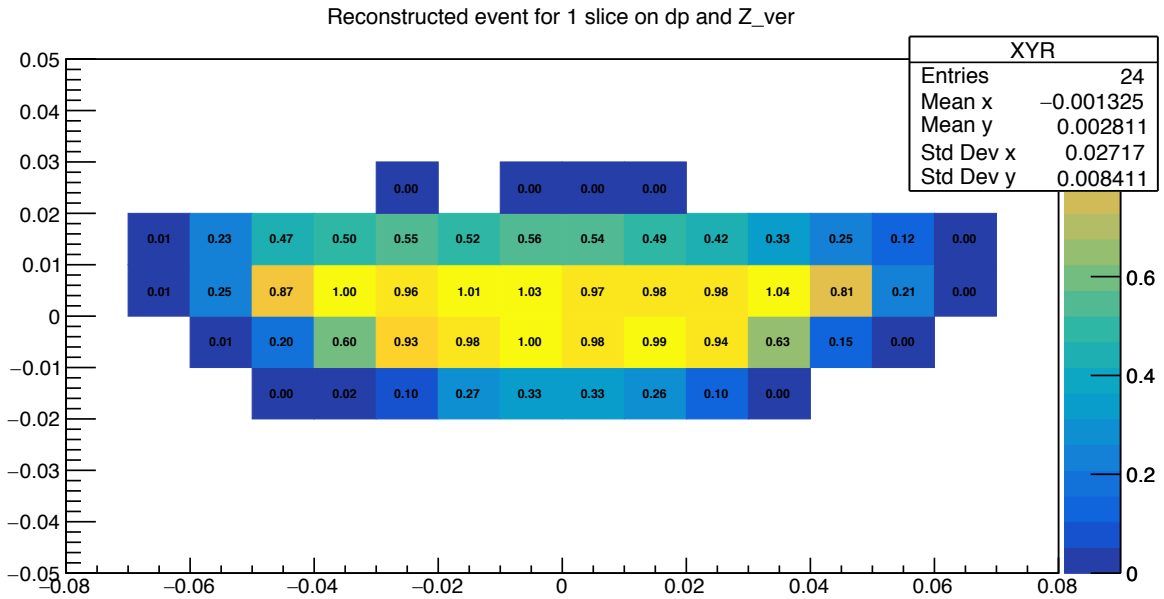


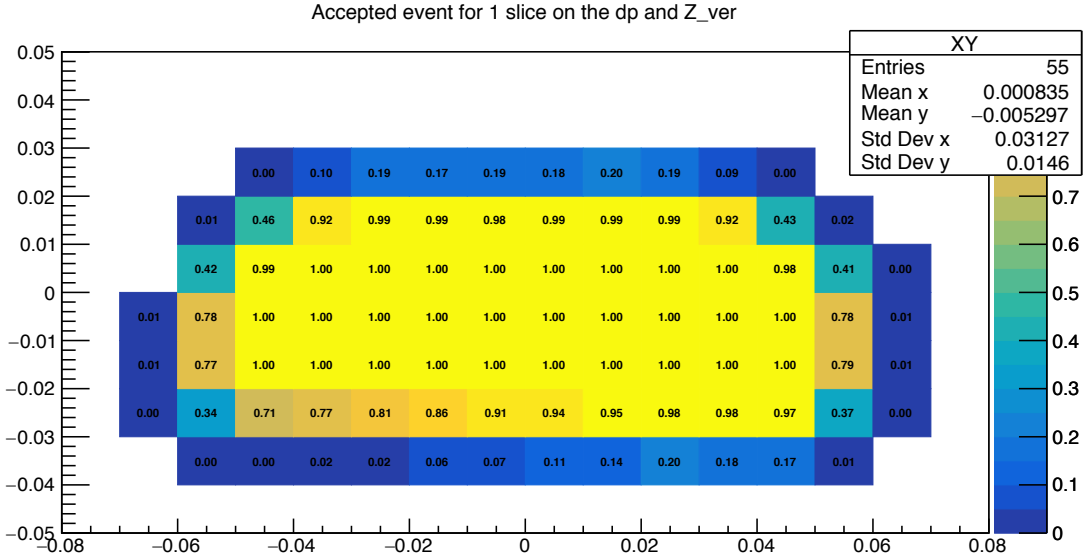



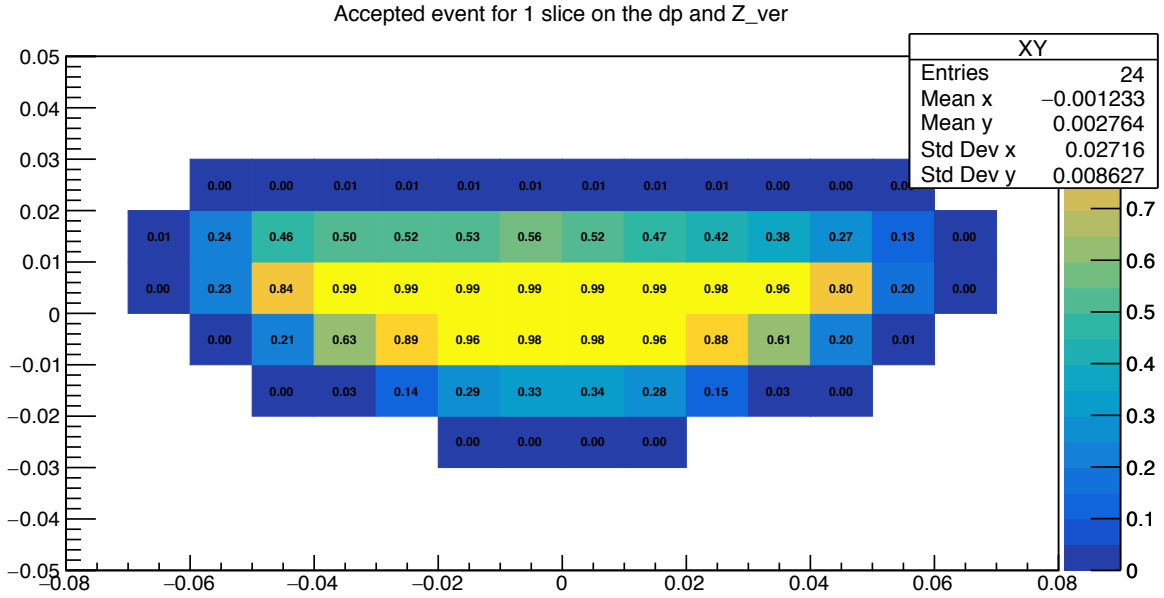
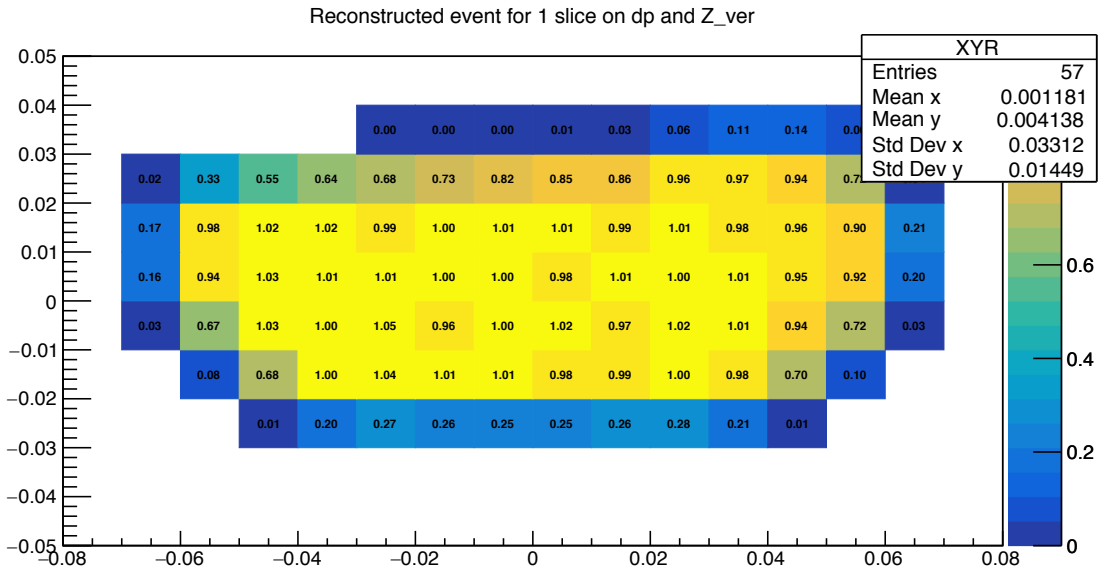
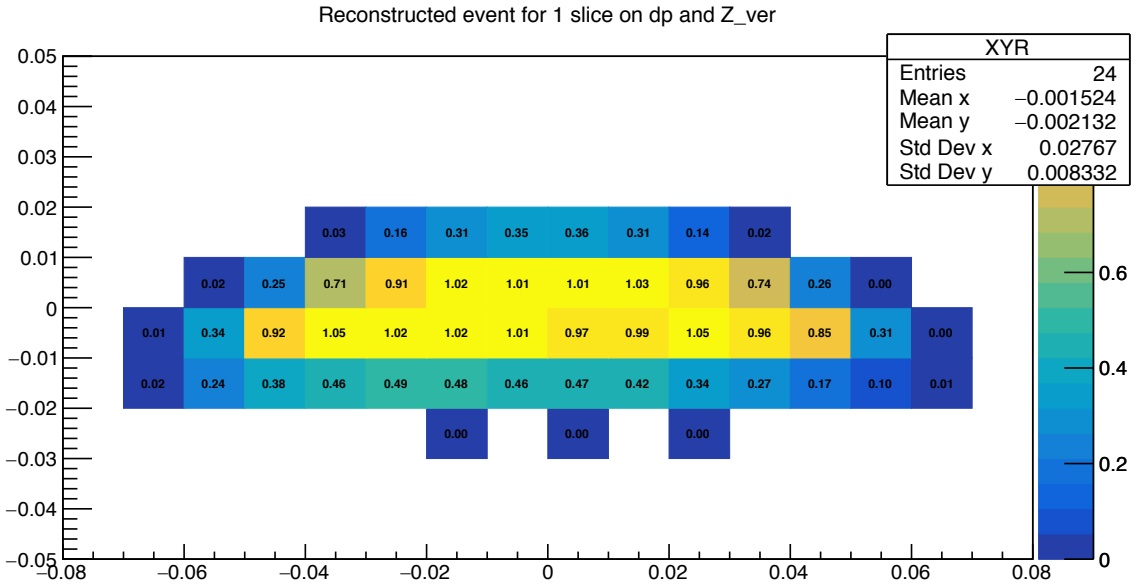
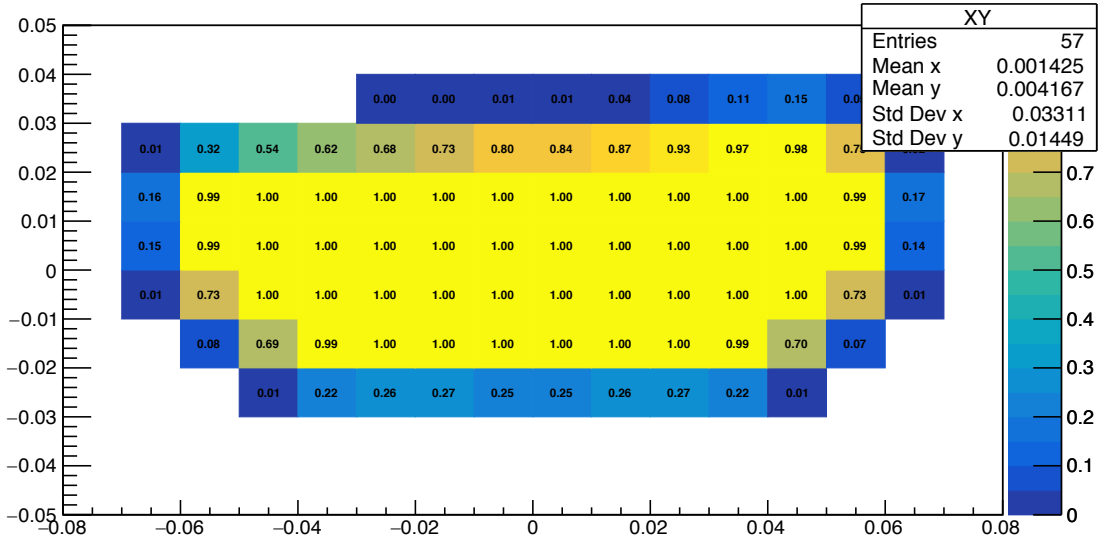
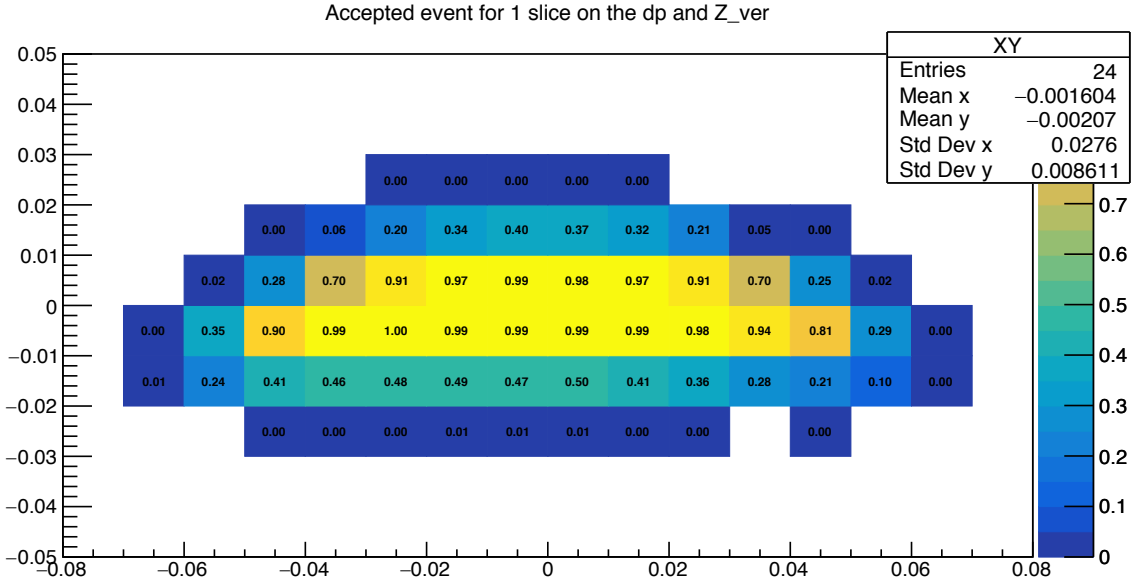



# Center dp (-0.5 -> 0.5%)  and Vz ( -9 cm -> -7 cm)






# Center dp (-0.5 -> 0.5) and VZ ( 7 -> 9 cm)