

Ω_c^0 lifetime measurement

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Ω_c^0 lifetime measurement meeting

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Outline

- Turbo ReFit PV bug
- D^0 MC re-weighting
- L0 efficiency

- Both

Xic0ToPpKmKmPip

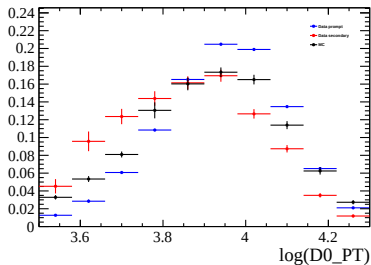
Xic0ToPpKmKmPip_LTUNB

require ReFit PV but the refitted PVs are neither created nor persisted

- Not clear yet what the impact is

D^0 MC correction

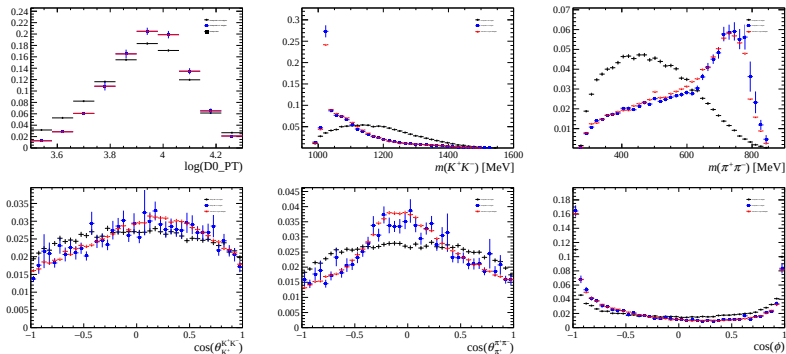
- Tracking
- PID
- L0Hadron
- Dalitz variables
- p_T (D^0)



D^0 MC reweighting: cut on L0Hadron

■ Procedure

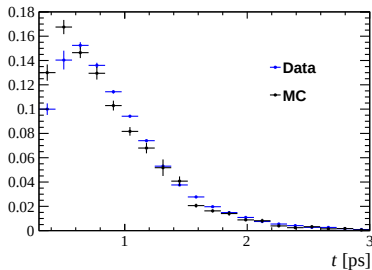
Tracking+PID ==> Dalitz ==> PT(D^0)



D^0 decay time distribution

■ Procedure

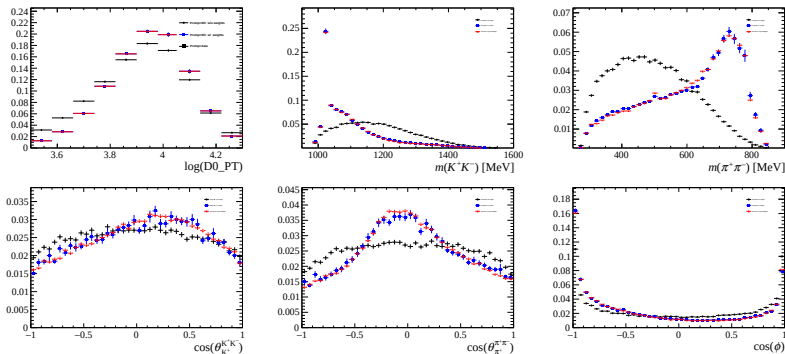
Tracking+PID ==> Dalitz ==> PT(D0)



D^0 MC reweighting: L0Hadron weight

■ Procedure

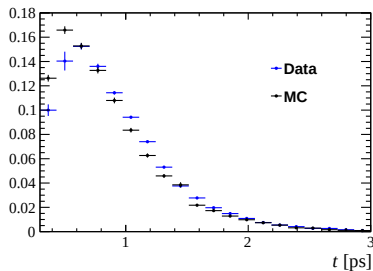
Tracking+PID+L0Hadron ==> Dalitz ==> PT(D^0)



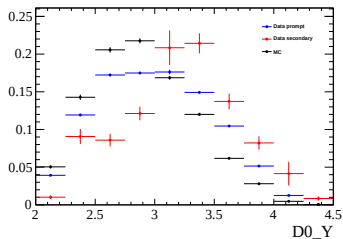
D^0 decay time distribution

■ Procedure

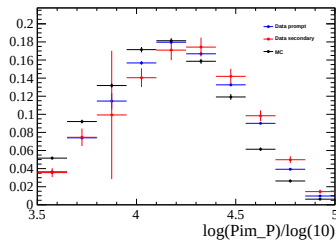
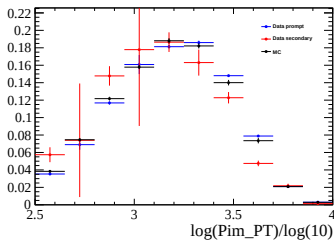
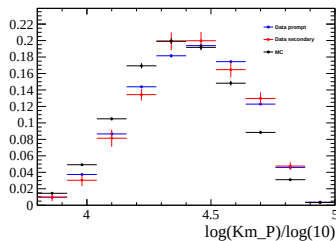
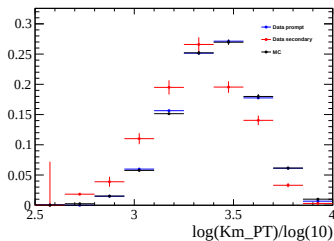
Tracking+PID+L0Hadron ==> Dalitz ==> PT(D0)



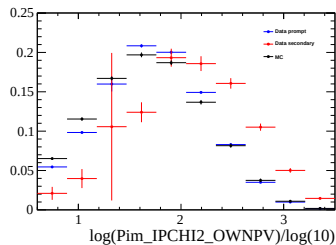
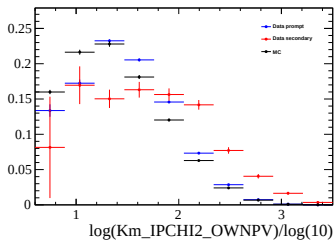
Tracking+PID+L0Hadron ==> Dalitz ==> PT(D0)



Tracking+PID+L0Hadron ==> Dalitz ==> PT(D0)

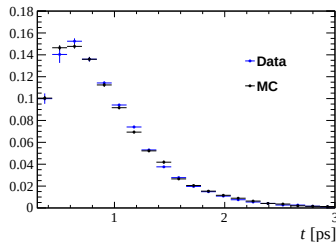
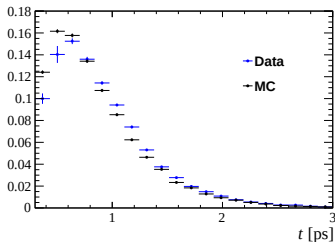


Tracking+PID+L0Hadron ==> Dalitz ==> PT(D0)

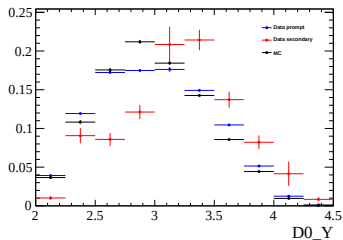


D^0 decay time distribution

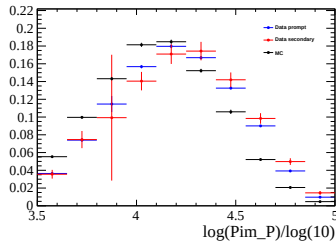
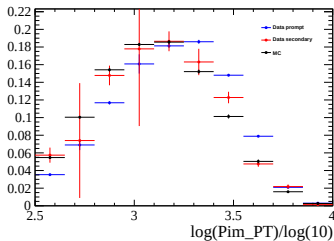
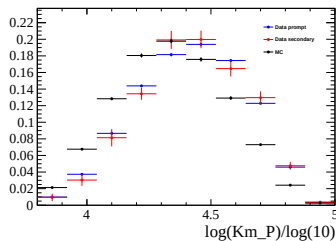
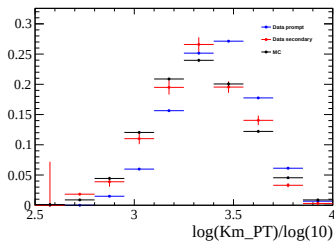
- (left) Tracking+PID
- (right) Tracking+PID+L0Hadron ==> Dalitz



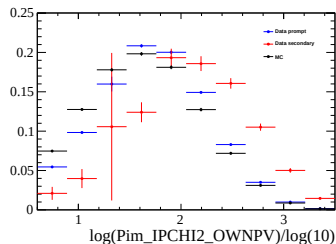
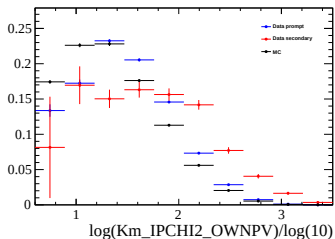
Tracking+PID+L0Hadron ==> Dalitz



Tracking+PID+L0Hadron ==> Dalitz



Tracking+PID+L0Hadron ==> Dalitz

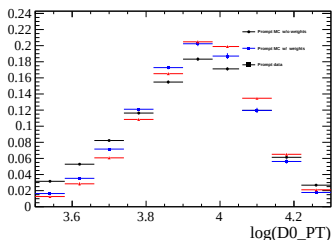


D^0 MC re-weighting

■ Procedure

Tracking+PID+L0Hadron ==> Dalitz ==> $PT(D0)+Y(D0)$

■ Not easy to get decent (PT,Y) weights



D^0	TOS [%]	TIS [%]
L0Global	14	39
L0HadronDecision	12	22
L0ElectronDecision	2	16
L0PhotonDecision	0	8
L0MuonDecision	1	6
L0DiMuonDecision	0	1

- The above results come from MC without trigger requirements
- For MC passing turbo line: L0HadronTOS&&L0GlobalTIS>90%