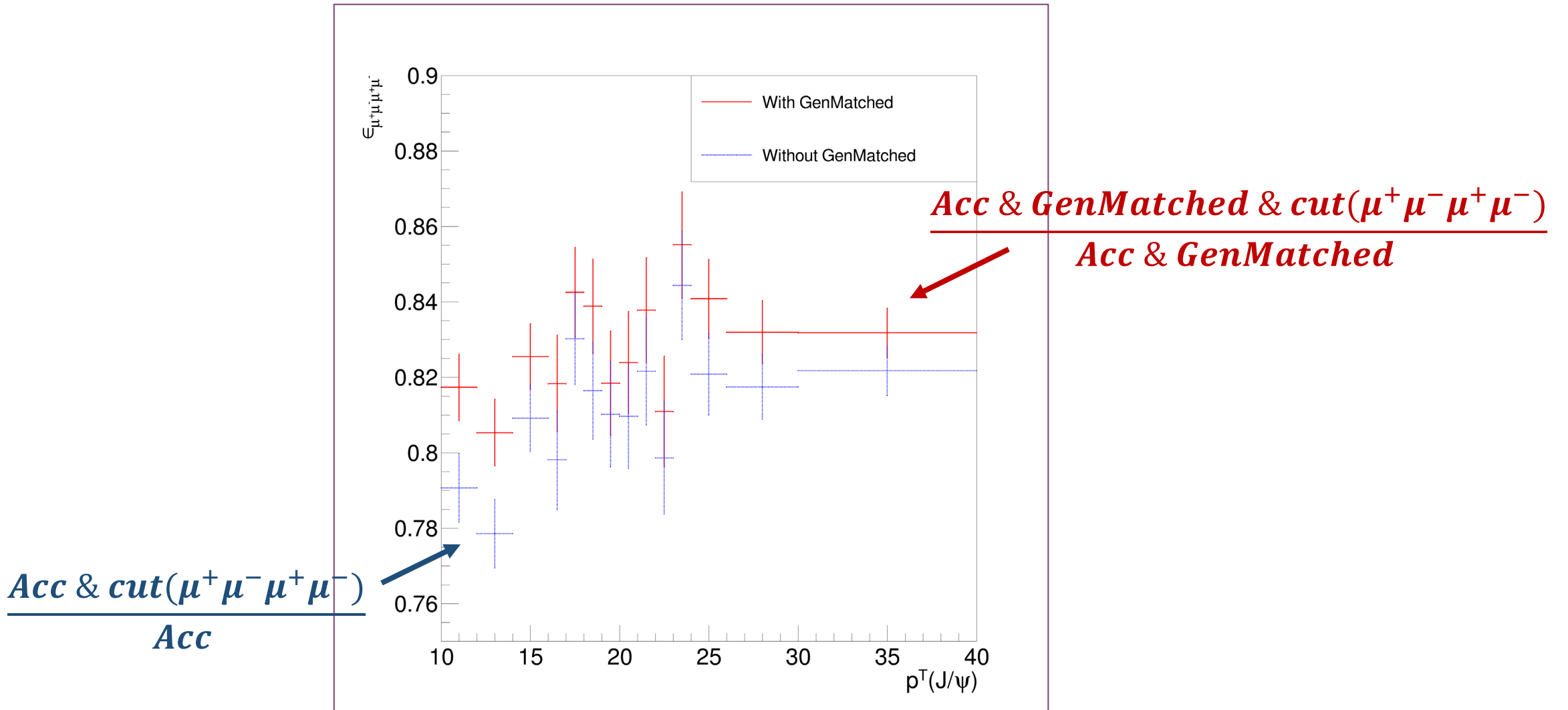


$\epsilon_{\mu^+\mu^-\mu^+\mu^-}$ w/o GenMatched requirement

- Asked by Achim to check the PU exclusion





Maps merging

- Acceptance/Efficiency are calculated as:

- $\epsilon(J/\psi_1) = N^{pass}(J/\psi_1) / N^{all}(J/\psi_1)$, $\epsilon(J/\psi_2) = N^{pass}(J/\psi_2) / N^{all}(J/\psi_2)$

- It is proposed to use:

- $\epsilon(J/\psi_2) = N^{pass}(J/\psi_1) + N^{pass}(J/\psi_2) / N^{all}(J/\psi_1) + N^{all}(J/\psi_2)$



Maps merging

- The new efficiency is calculated with 16 sample, and a closure test is conducted

| | N^{obs} | N^{Corr}_{SPS} | N^{Corr}_{DPS} | N^{Corr}_{37Mix} | N^{Corr}_{82Mix} |
|-------------------------------------|-----------|------------------|------------------|--------------------|--------------------|
| <i>Total</i> | 13140 | 15519 | 11414 | 13920 | 14935 |
| <i>RECO</i> | 13140 | 14875 | 11018 | 13366 | 14326 |
| <i>id(μ)</i> | 12410 | 14029 | 10479 | 12531 | 13388 |
| <i>vtx($\mu^+\mu^-$)</i> | 11379 | 12749 | 9916 | 11594 | 12334 |
| <i>HLT</i> | 8337 | 9339 | 8888 | 9206 | 9278 |
| <i>evt</i> | 8160 | | | | |

- No big discrepancy with old result is noticed
- I propose to just keep the old one



Systematic from the correction

Acc

| | N^{obs} | N_{SPS}^{Corr} | N_{DPS}^{Corr} | N_{37Mix}^{Corr} | N_{82Mix}^{Corr} |
|------------|-----------|------------------|------------------|--------------------|--------------------|
| Total | 151857 | 148980 | 153623 | 151509 | 149176 |
| $p^T(\mu)$ | | | 50459 | | |

Eff

| | N^{obs} | N_{SPS}^{Corr} | N_{DPS}^{Corr} | N_{37Mix}^{Corr} | N_{82Mix}^{Corr} |
|-------|-----------|------------------|------------------|--------------------|--------------------|
| Total | 13140 | 15519 | 11414 | 13920 | 14935 |
| evt | | | 8160 | | |

- N^{obs} should be calculated as: $151857 \times 13140 / 50459 = 39545$
- N_{SPS}^{Corr} : $148980 \times 15519 / 50459 = 45764$
- Error is calculated as: $45764 - 39545 / 39545 \% = 15.7\%$



Old

| | N_{obs} | N_{SPS}^{Corr} | N_{DPS}^{Corr} | N_{37Mix}^{Corr} | N_{82Mix}^{Corr} |
|------------------------------|-----------|------------------|------------------|--------------------|--------------------|
| <i>Total</i> | 13140 | 15500 | 11371 | 13904 | 14916 |
| <i>RECO</i> | 13140 | 14858 | 10982 | 13349 | 14308 |
| <i>id</i> (μ) | 12410 | 14013 | 10450 | 12577 | 13491 |
| <i>vtx</i> ($\mu^+ \mu^-$) | 11379 | 12733 | 9906 | 11572 | 12316 |
| <i>HLT</i> | 8337 | 9334 | 8899 | 9207 | 9275 |
| <i>evt</i> | 8160 | | | | |

New

| | N_{obs} | N_{SPS}^{Corr} | N_{DPS}^{Corr} | N_{37Mix}^{Corr} | N_{82Mix}^{Corr} |
|------------------------------|-----------|------------------|------------------|--------------------|--------------------|
| <i>Total</i> | 13140 | 15519 | 11414 | 13920 | 14935 |
| <i>RECO</i> | 13140 | 14875 | 11018 | 13366 | 14326 |
| <i>id</i> (μ) | 12410 | 14029 | 10479 | 12531 | 13388 |
| <i>vtx</i> ($\mu^+ \mu^-$) | 11379 | 12749 | 9916 | 11594 | 12334 |
| <i>HLT</i> | 8337 | 9339 | 8888 | 9206 | 9278 |
| <i>evt</i> | 8160 | | | | |