

# Answers to questions raised by conveners on EW penguin.

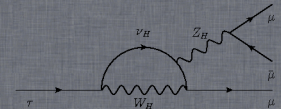
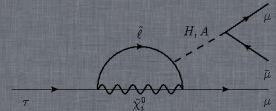
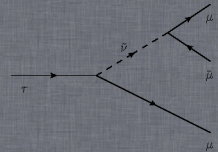
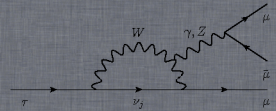
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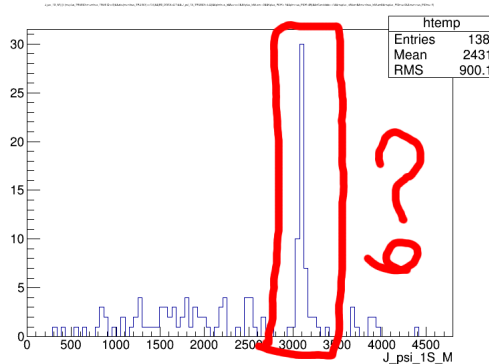
University of Zurich <sup>UZH</sup>



# More Robust calculation of efficiency

We investigated further the events that have one real  $\mu$  as candidate.

- 1 We observed  $J/\psi$  peak after vetoing this resonance.
- 2 Most of the non  $\mu$  had `TRUEID==0`.
- 3 If we account for truth matching problems we obtain the following efficiency.



# More Robust calculation of efficiency

Efficiency for 2 real $\mu$ ID as $\mu$	
PID $_{\mu > -3}$	95.3%
PID $_{\mu > 0}$	97.4%
PID $_{\mu > 5}^1$	99.2%

Conclusion: Our bck is purely dimuon!

PS. If you think about asking what the remaining 0.8% are.., just don't.

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<sup>1</sup>2011 analysis had similar cut inside BDT

# More advanced generator cuts?

We tried two approaches:

- Require additional track close to dimuon pair.

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Requiring 3 tracks doesn't help at all. 98% of the cases the DOCA between 3 tracks is the dimuon DOCA (what you would expect). In 80% of cases the minimum DOCA of three tracks is 0 (because of semi-leptonic decays).