Analysis Progress on DVMP

BY

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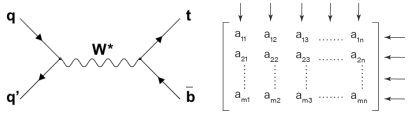
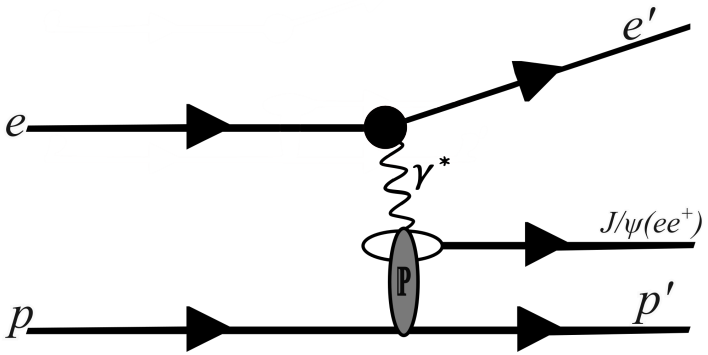
Exclusive/Diffraction/Tagging meeting
11/04/2024

University of New Hampshire

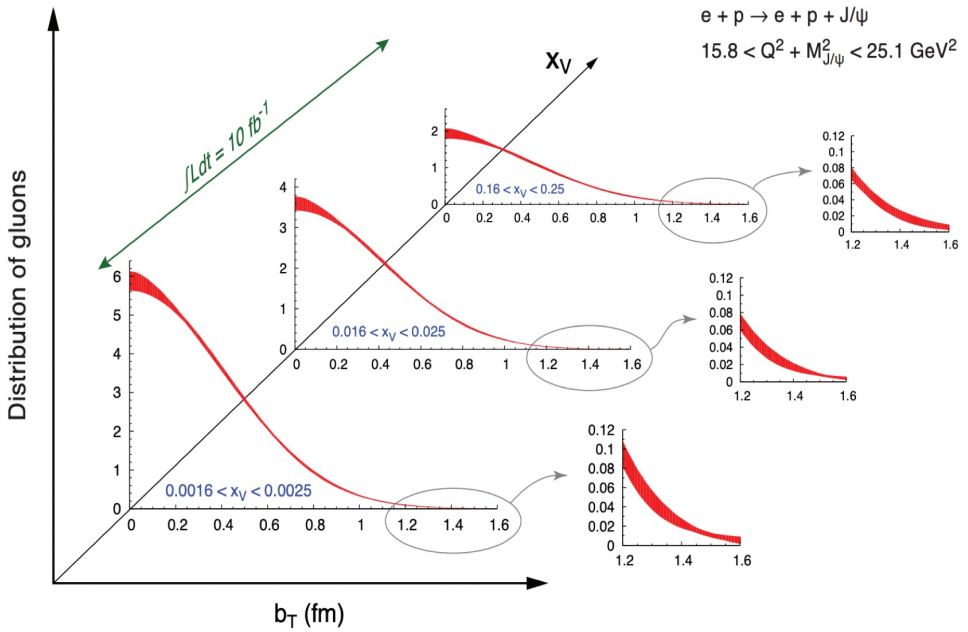


Motivation

Typical Feynman diagram describing an exclusive (e + p) beam collisions leading to the production of J/ψ mesons.



★ Explore heavy mesons like J/ψ essential for investigating gluon generalized parton distributions (GPDs).



★ J/Ψ production: transverse spatial distribution of gluons

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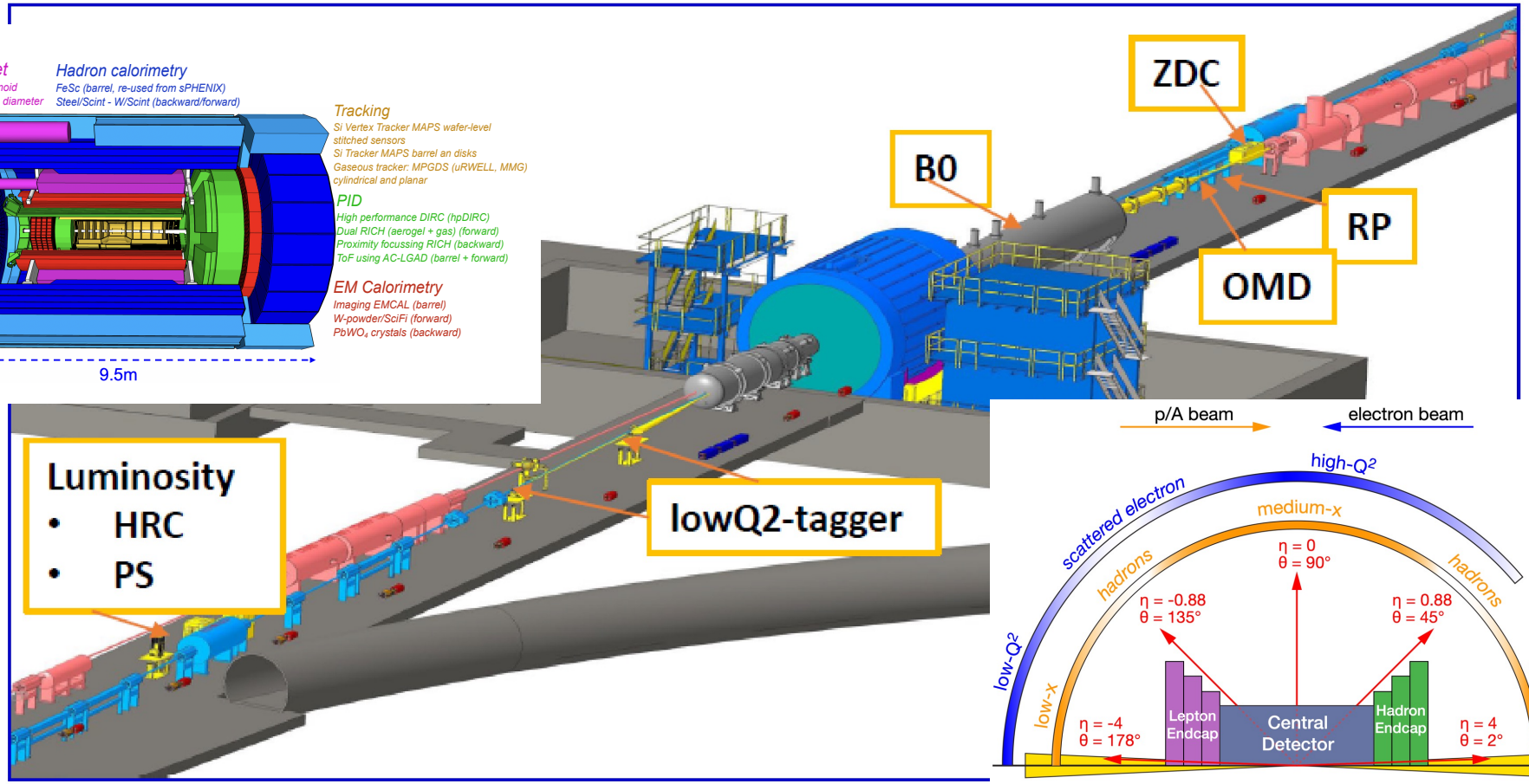
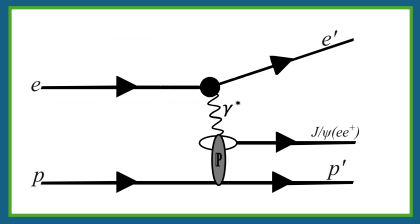
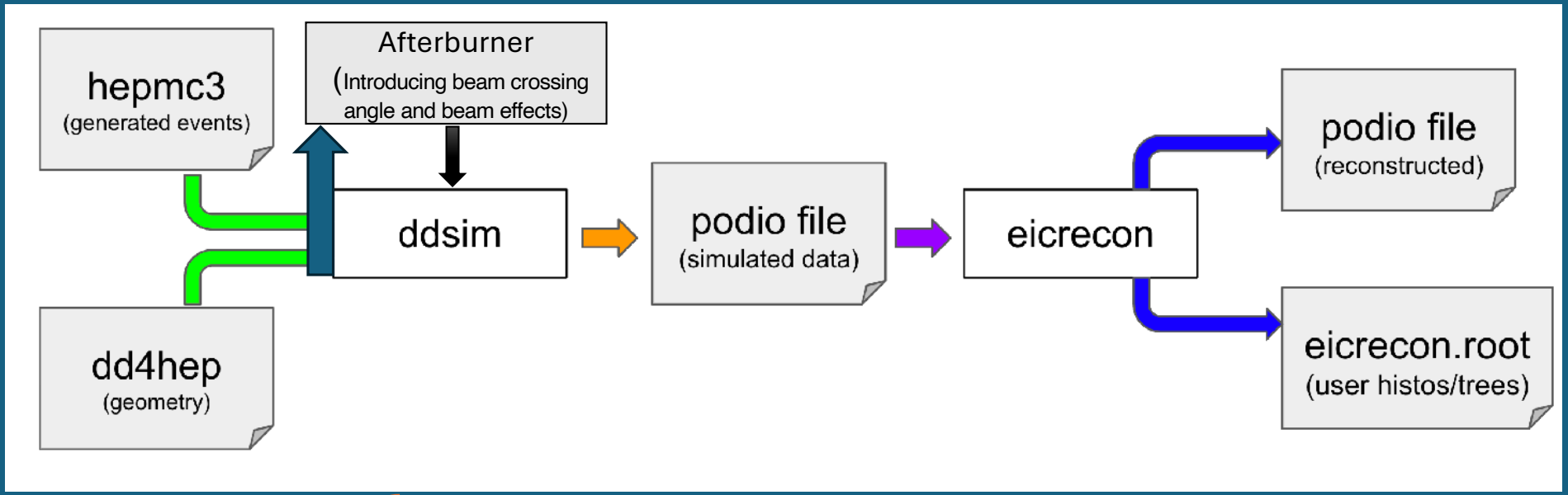
ePIC detector and simulation setup



Data Acquisition Procedure





Data Set
- 1<Q2<10 Luminosity = 10fb^{-1} 18x275 GeV
- 1<Q2<10 Luminosity = 10fb^{-1} 10x100 GeV

Cuts Applied

Cuts Protons	Cuts on scattered electrons selection
Placed p_T cut of greater or equal to 200 MeV	Must have 3 tracks, greater p_z, and smaller eta

Kinematic Variables

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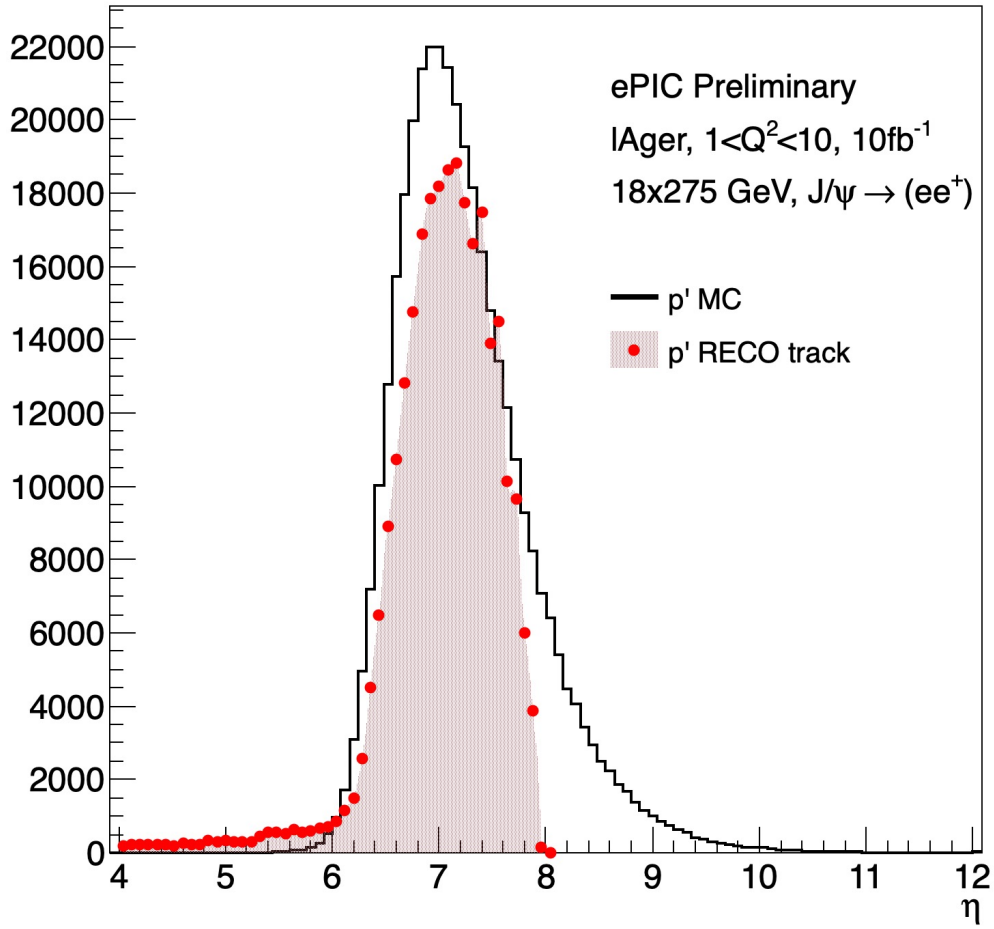

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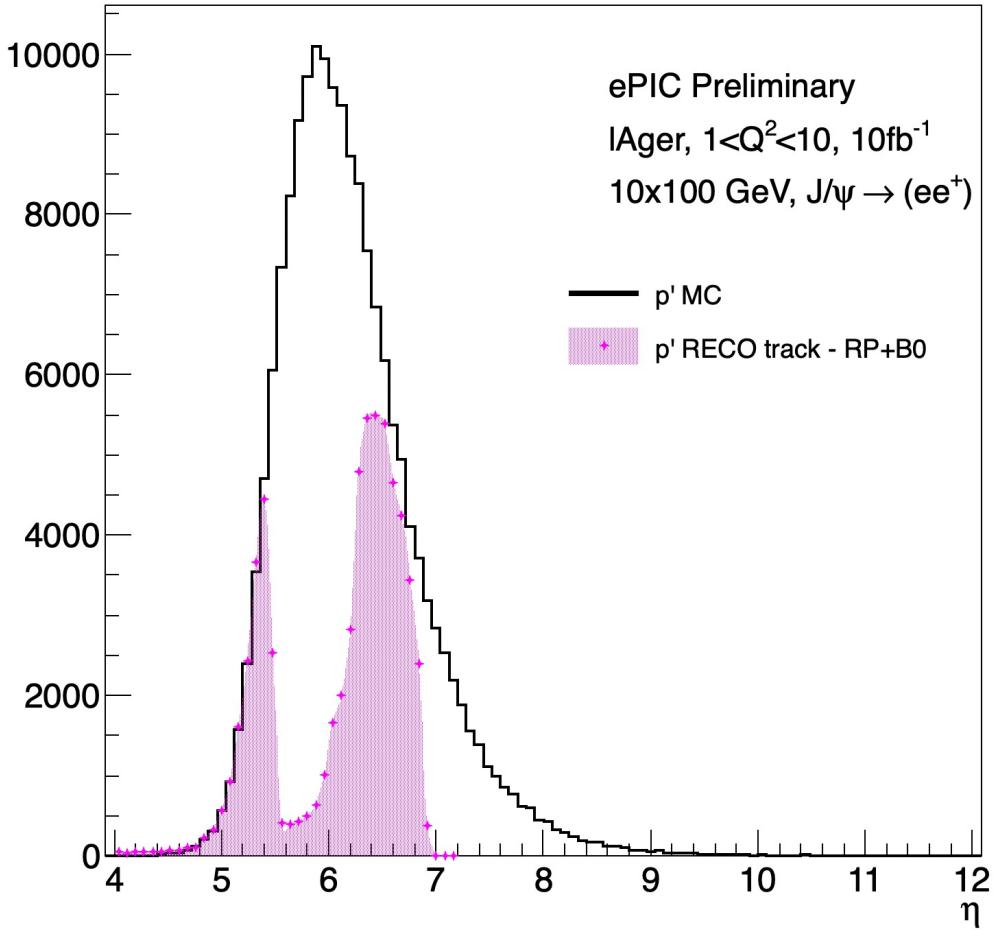

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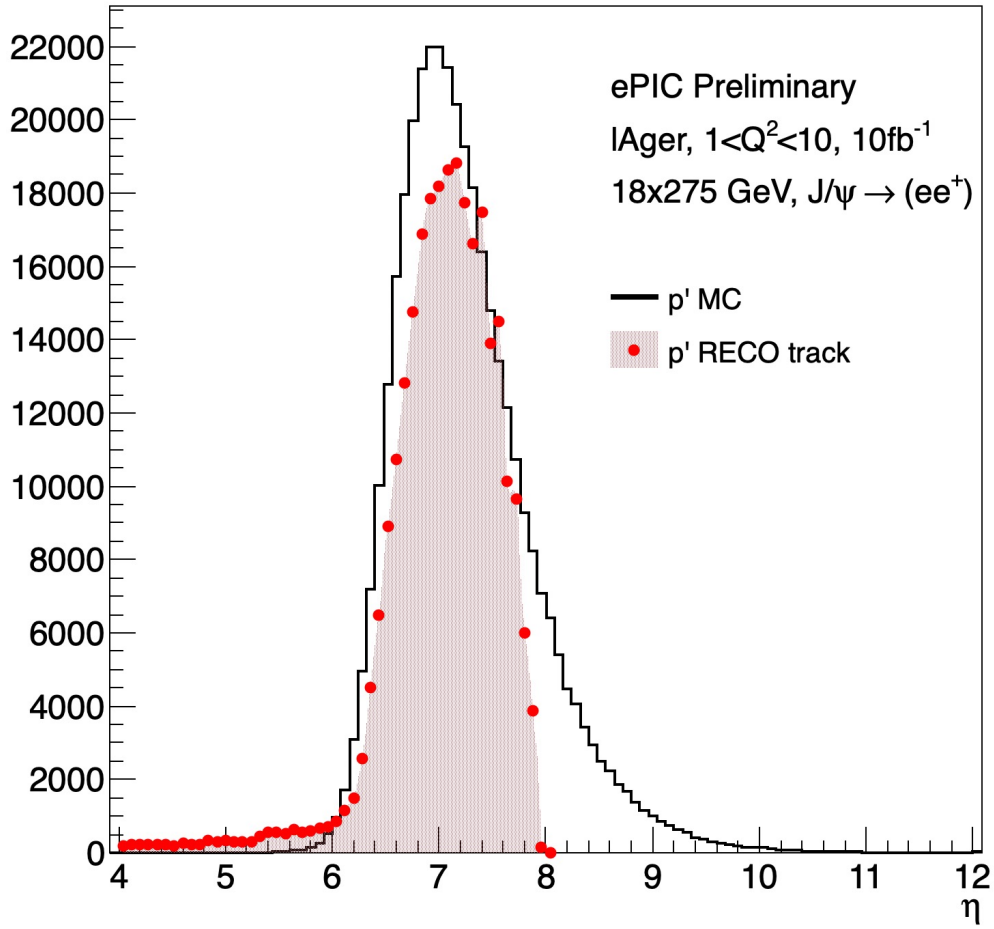

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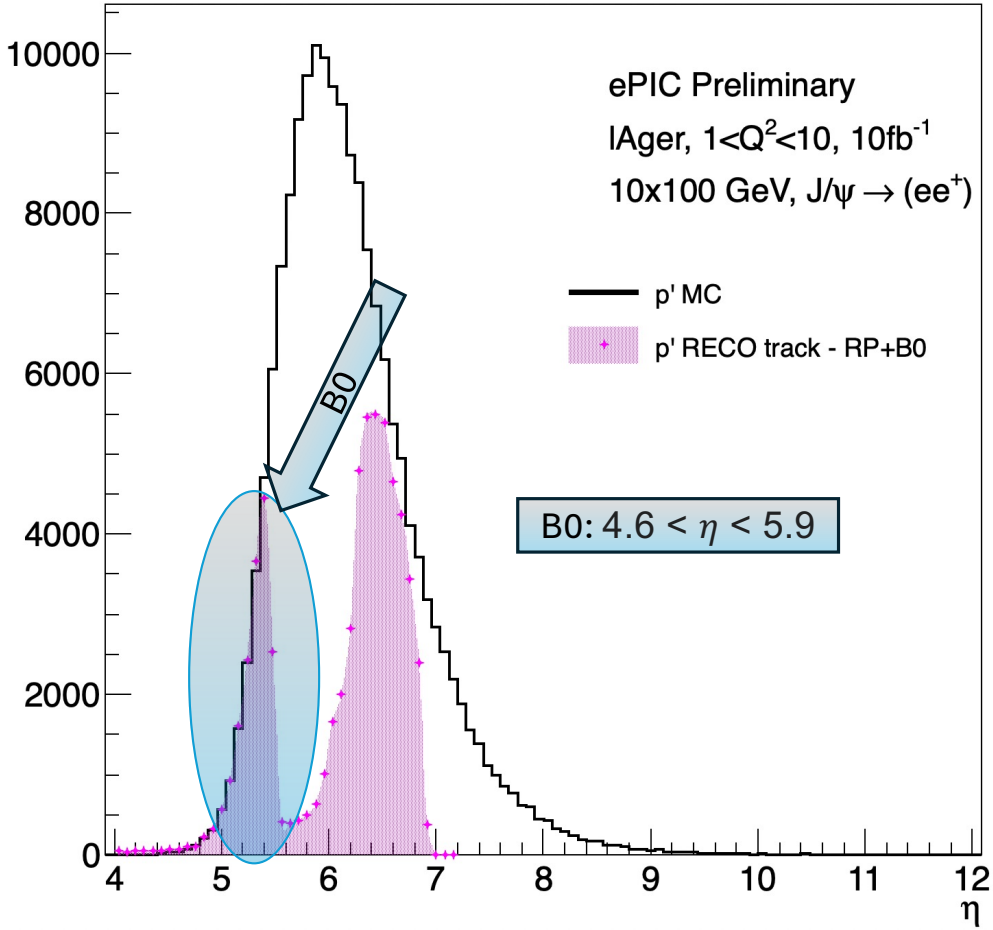

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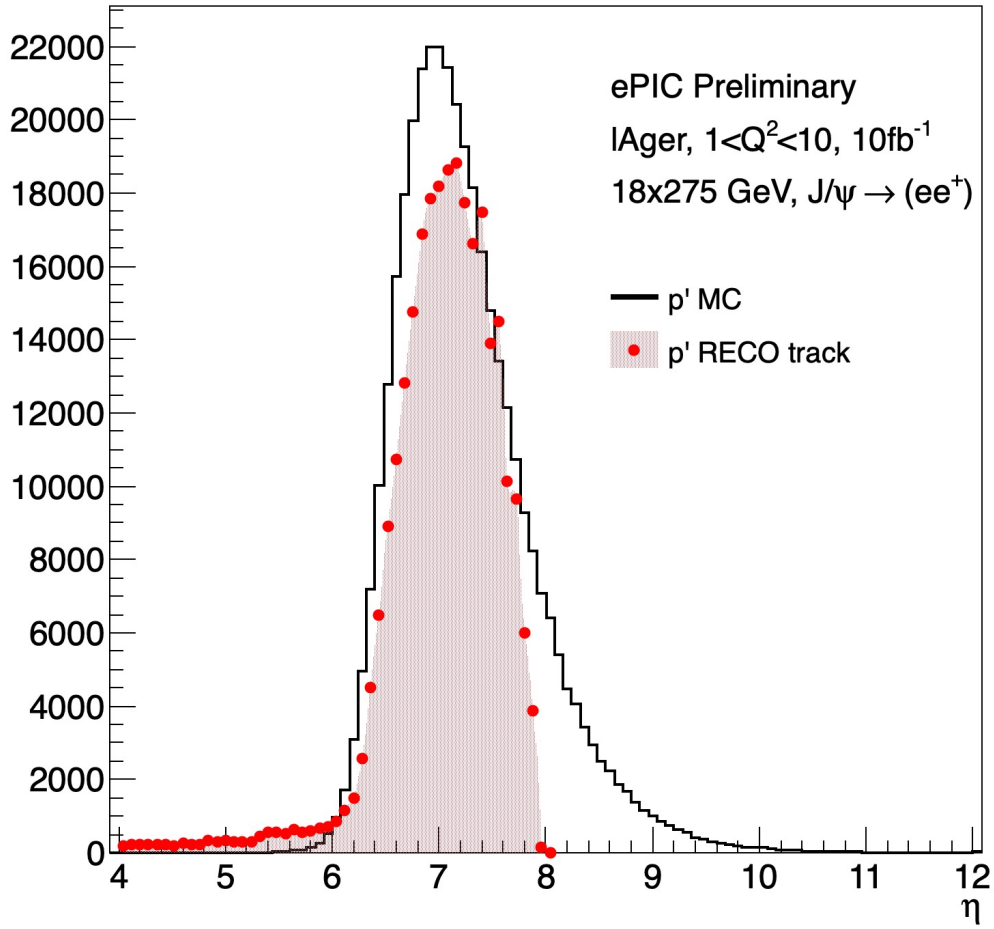

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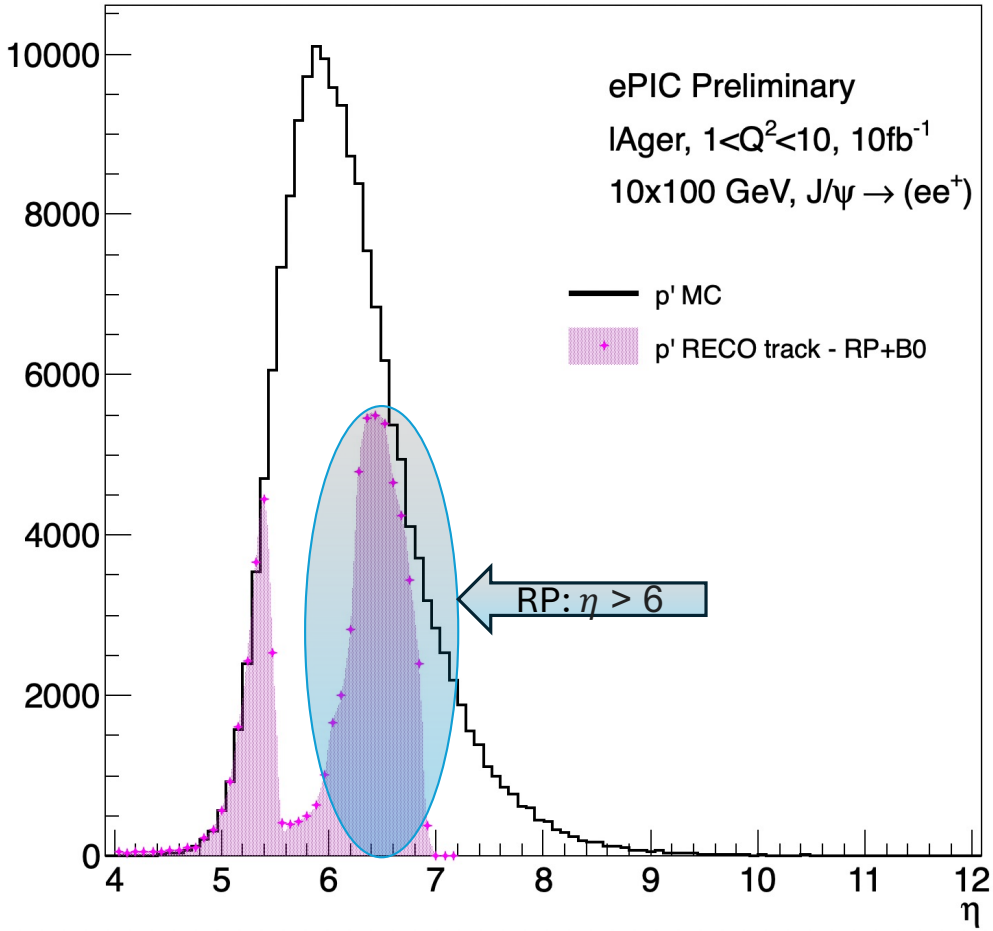

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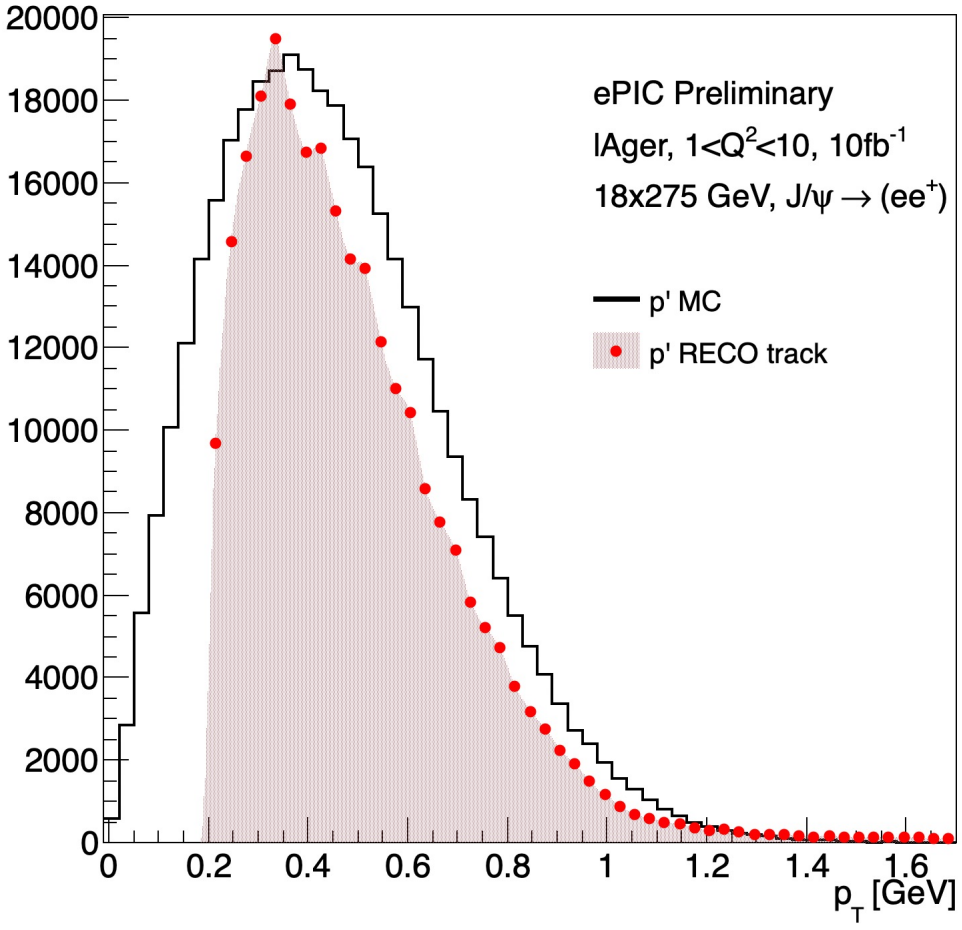

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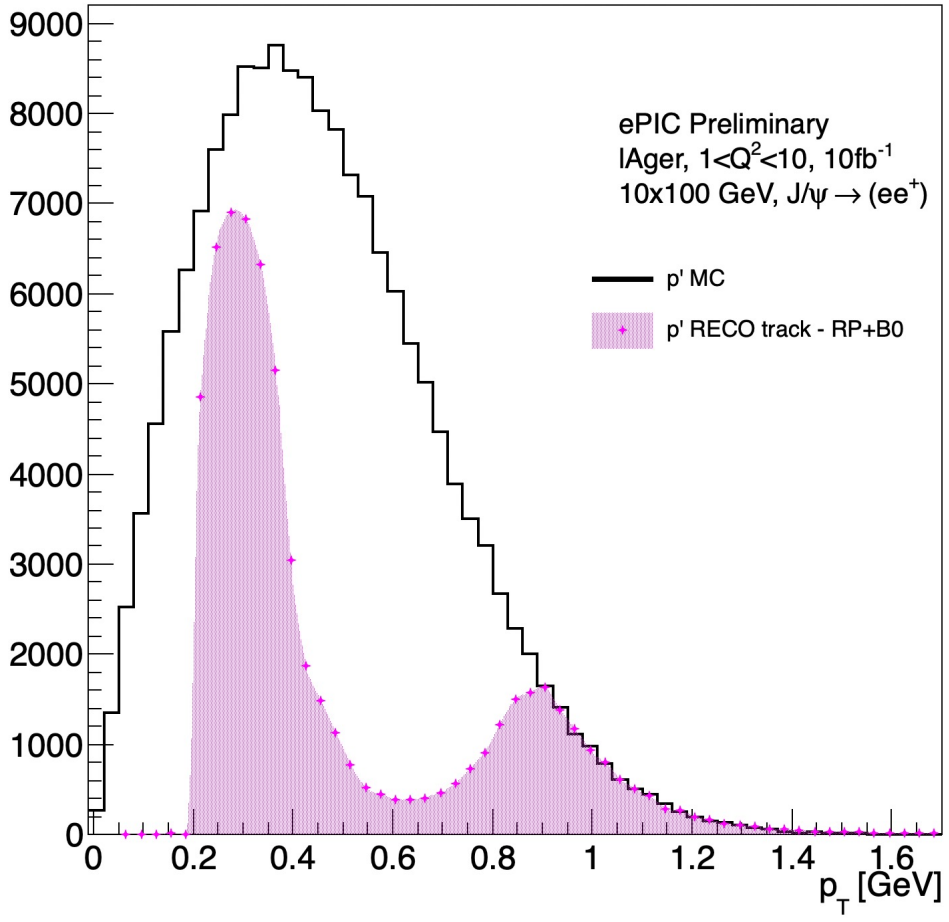

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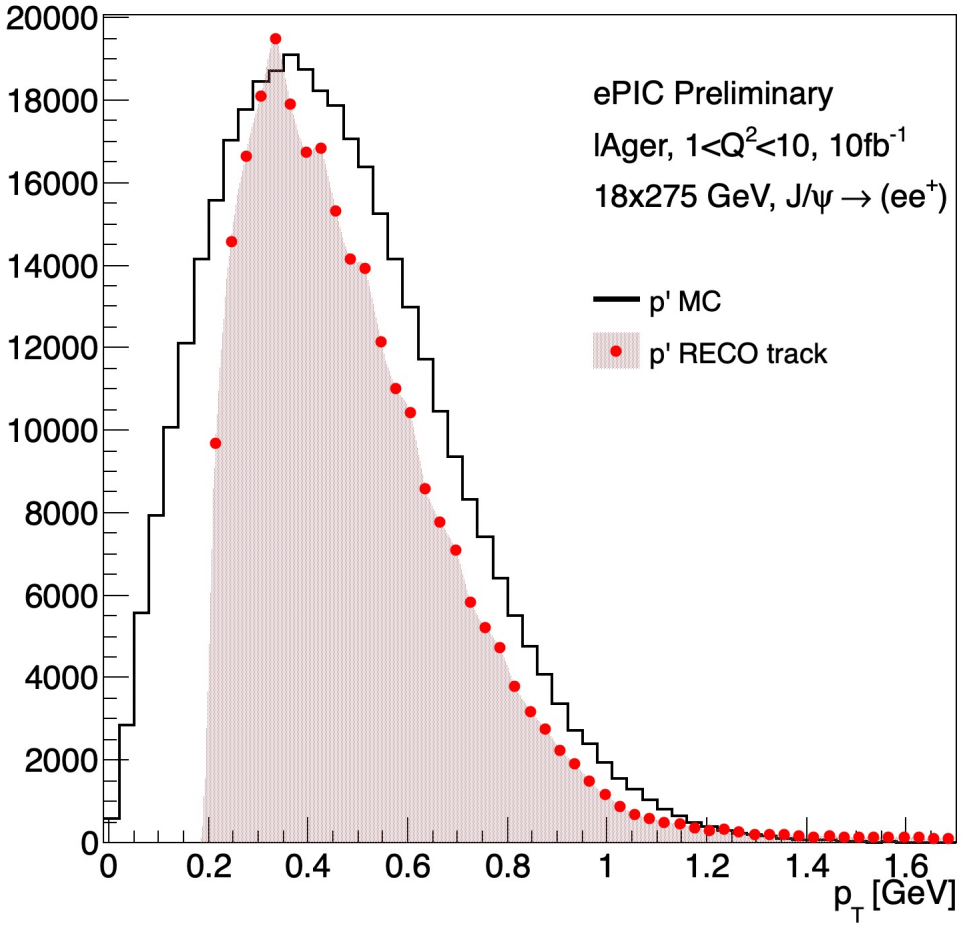

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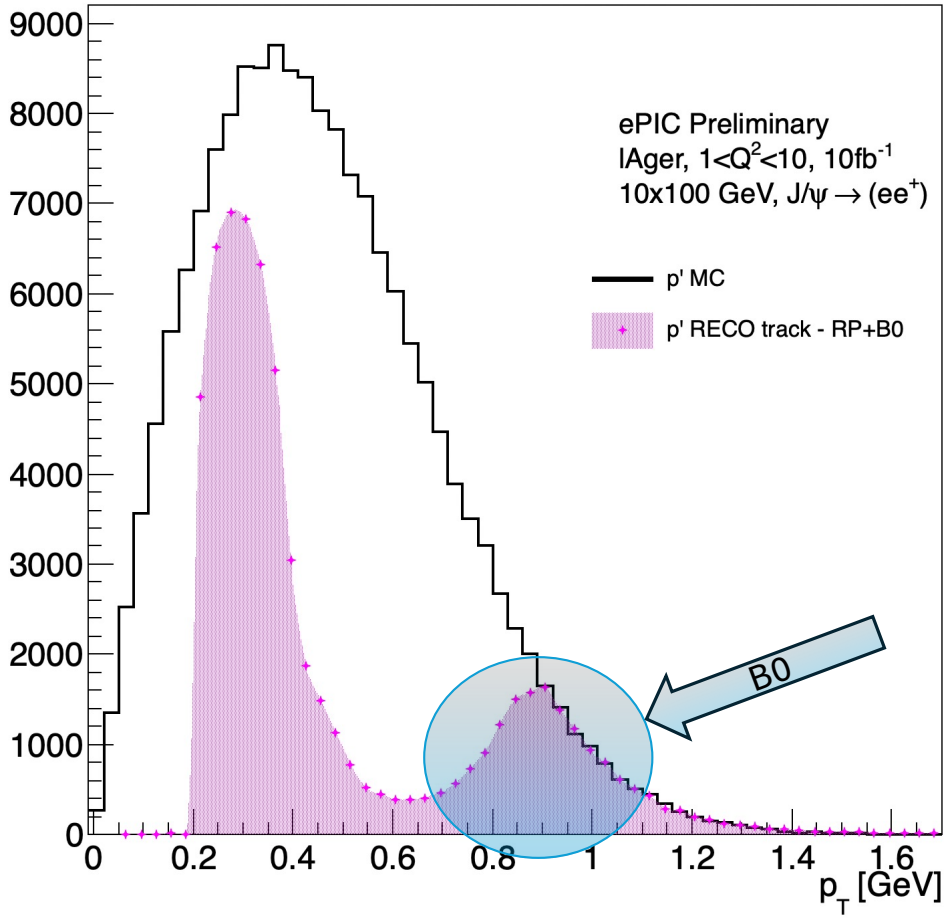

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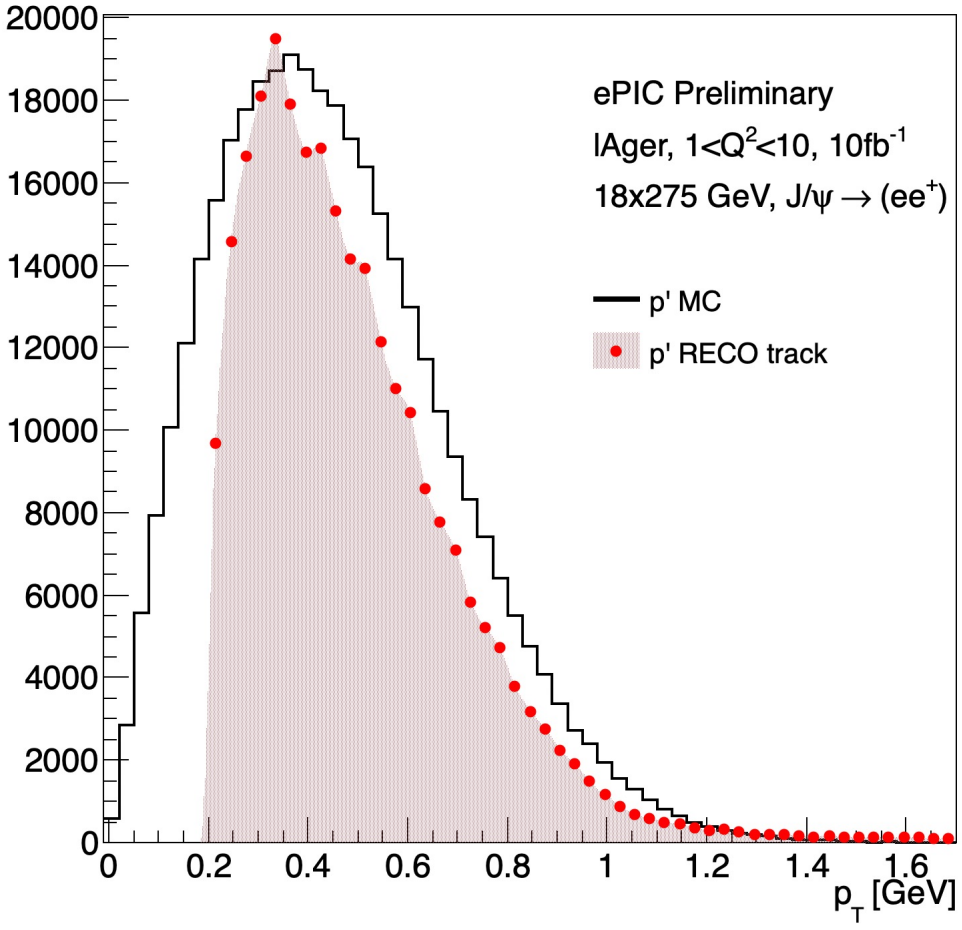

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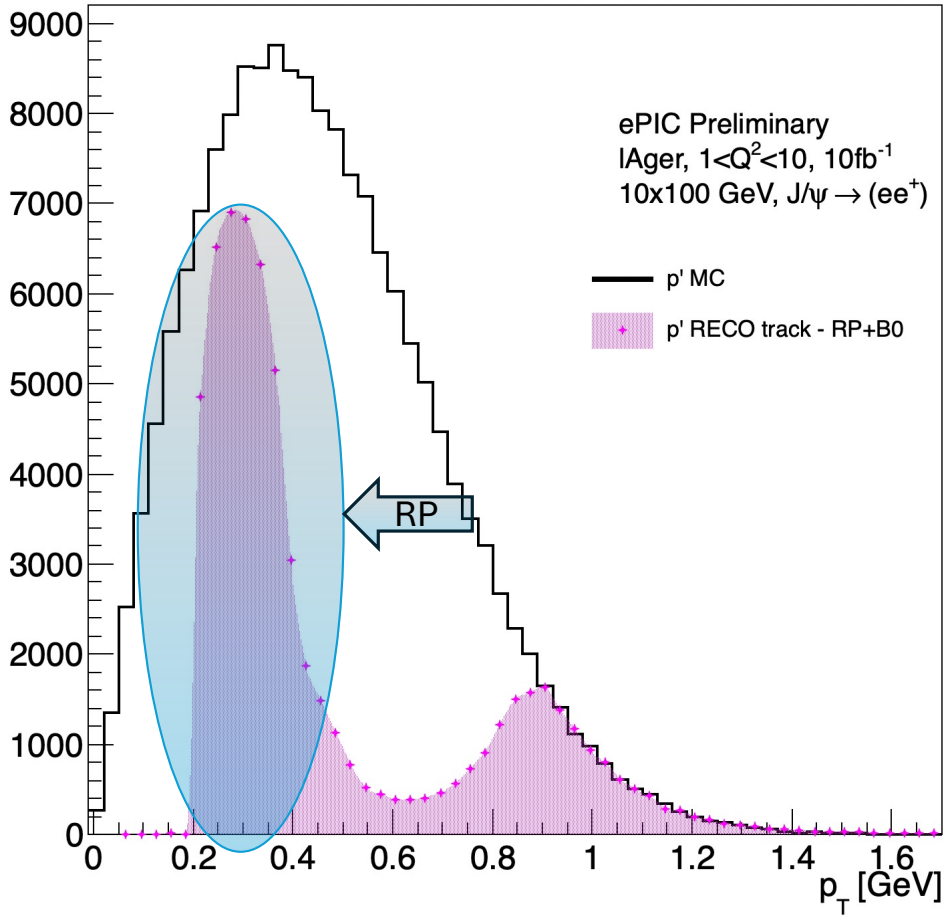

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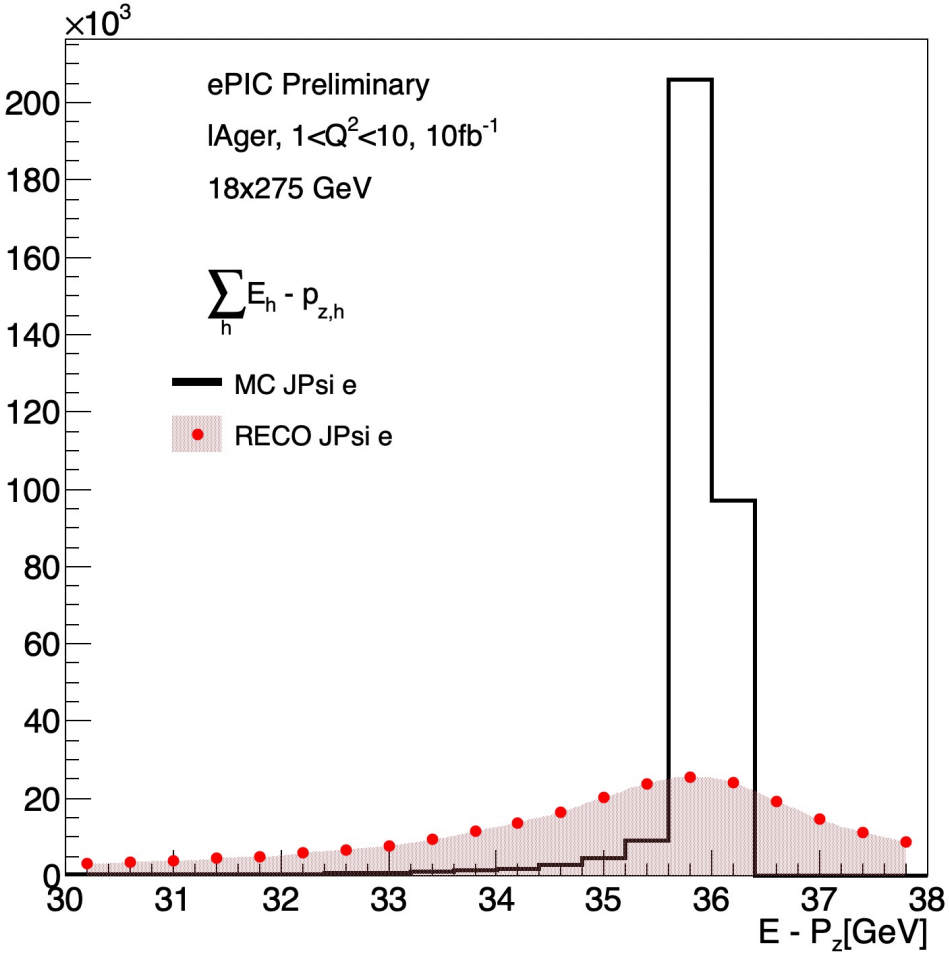

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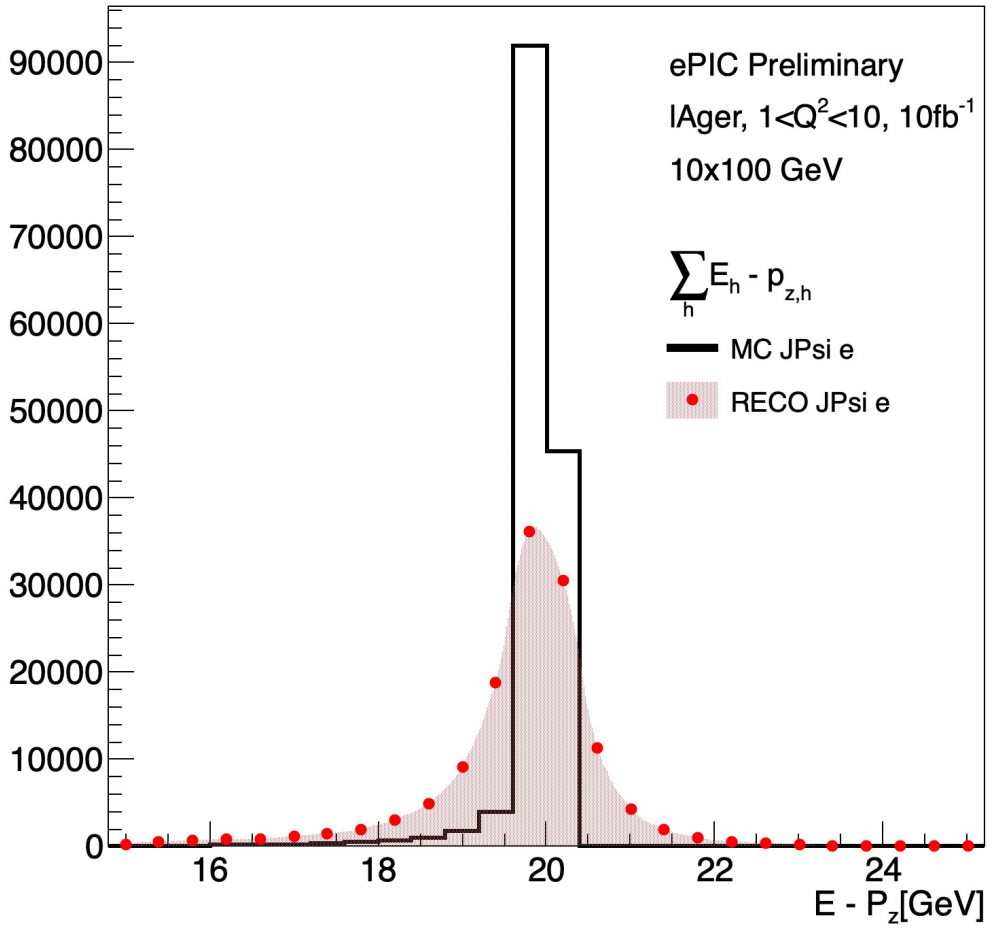

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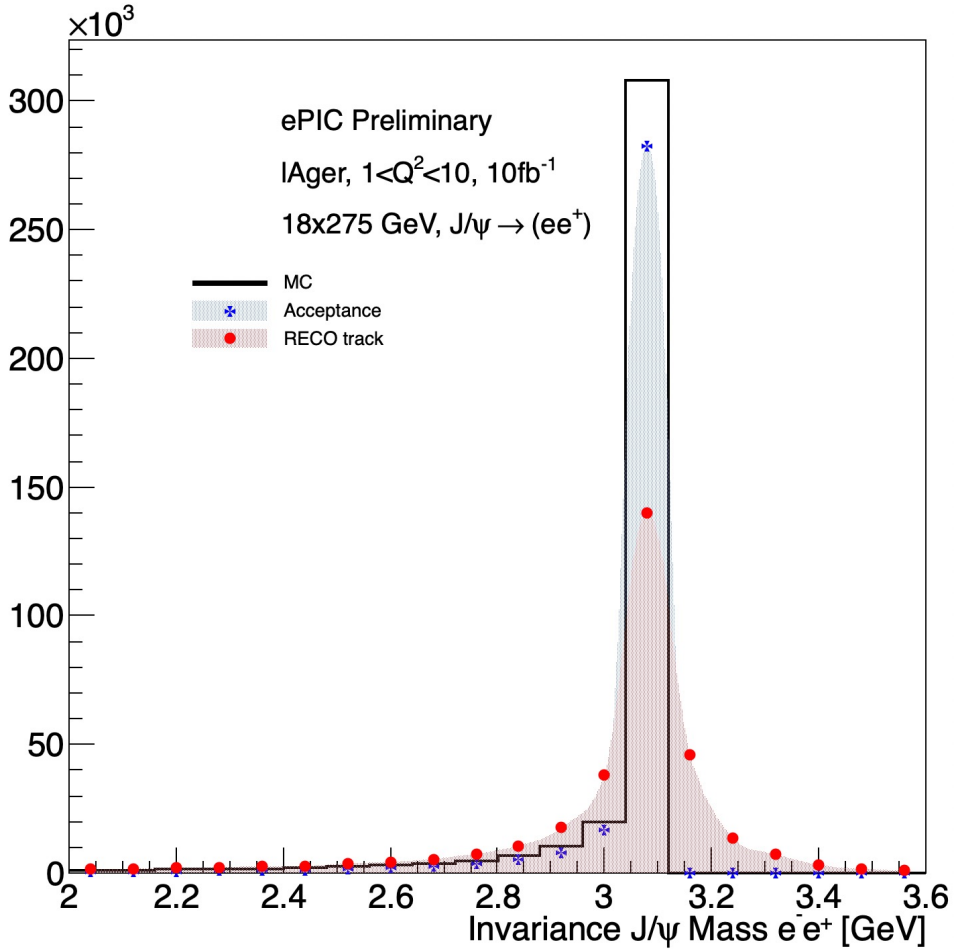

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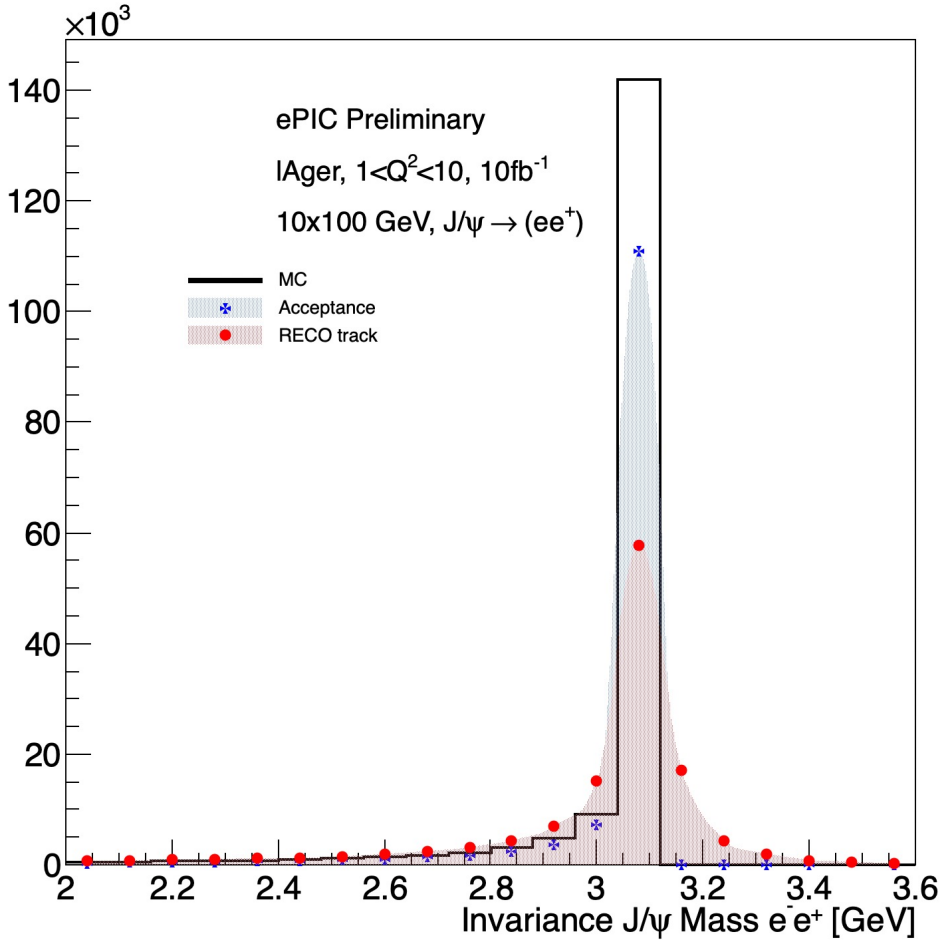

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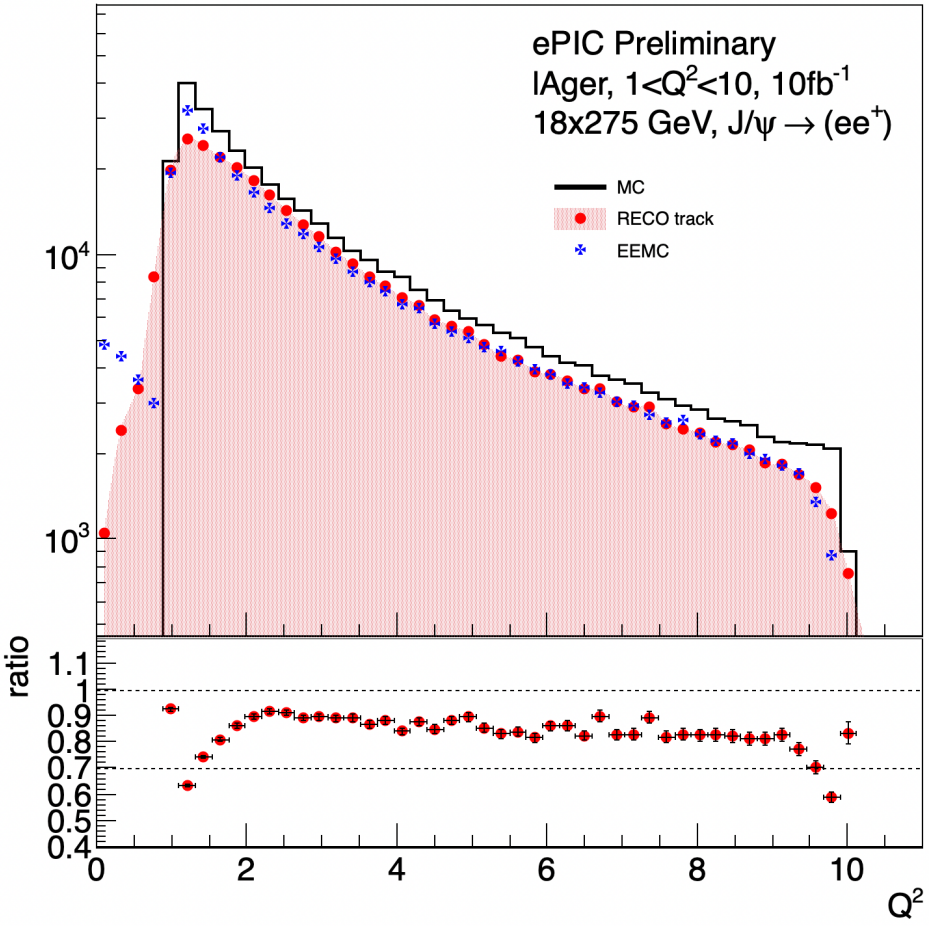

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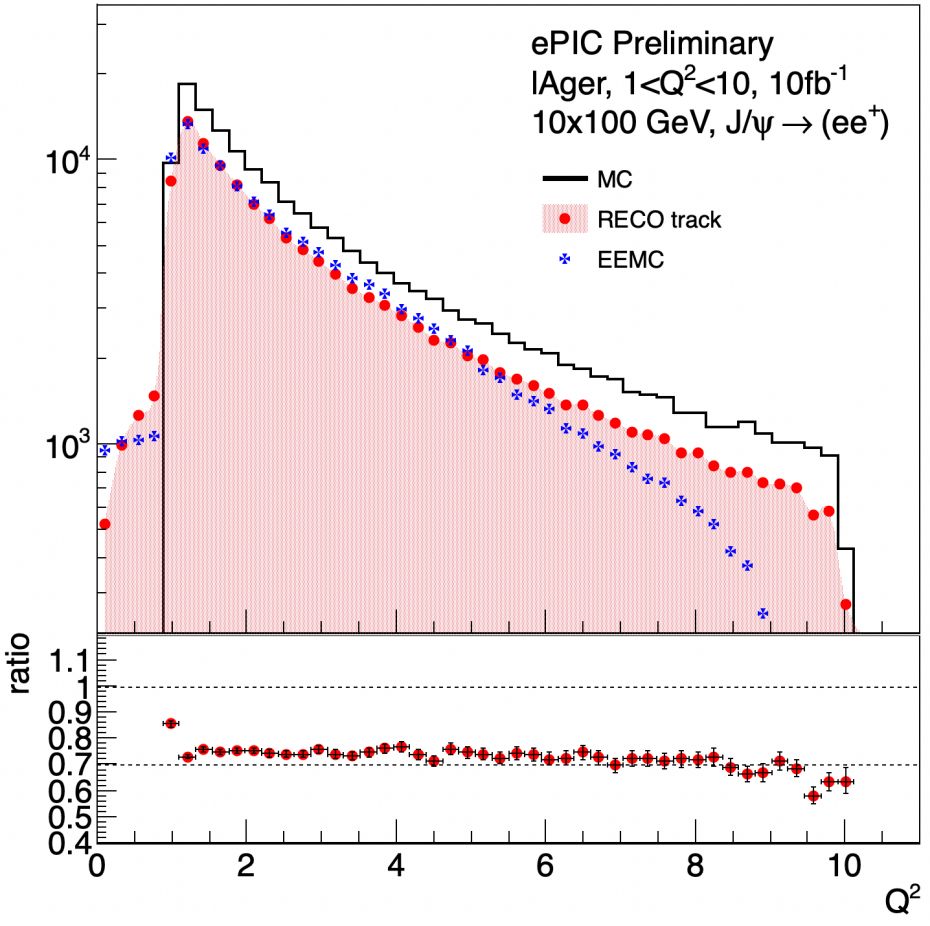

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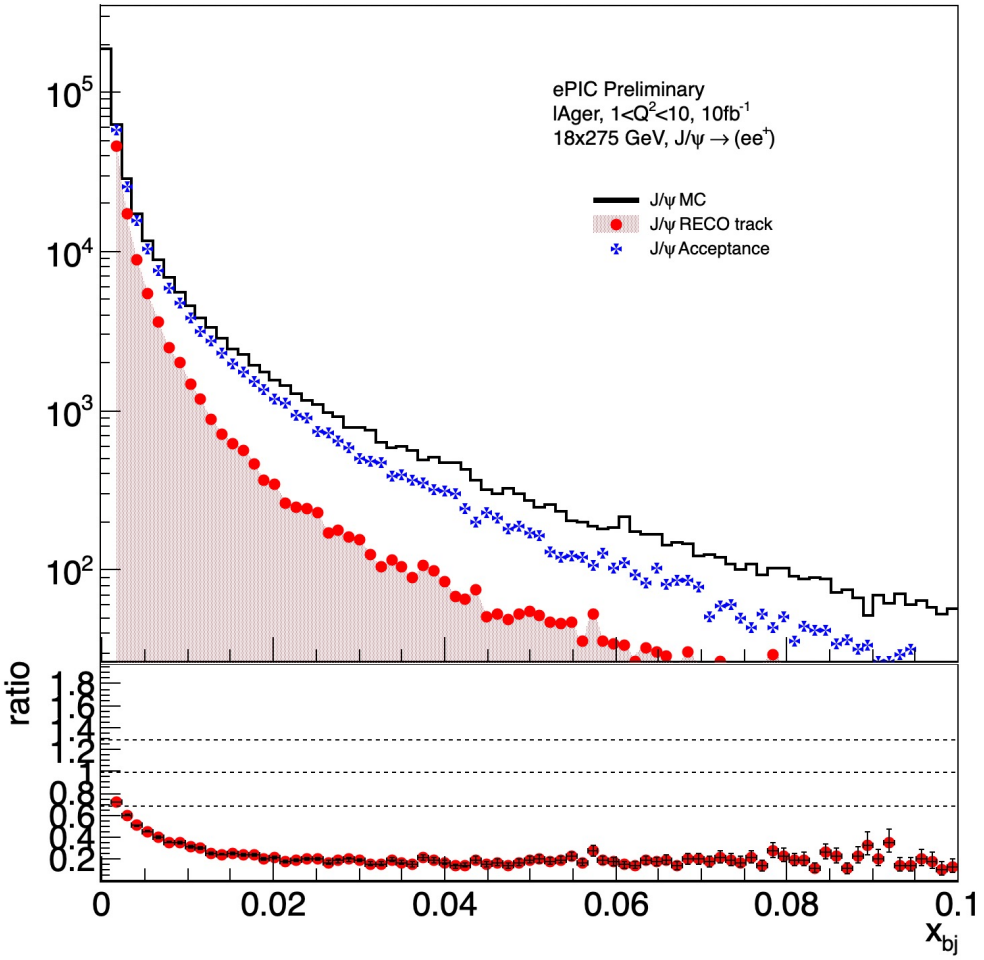

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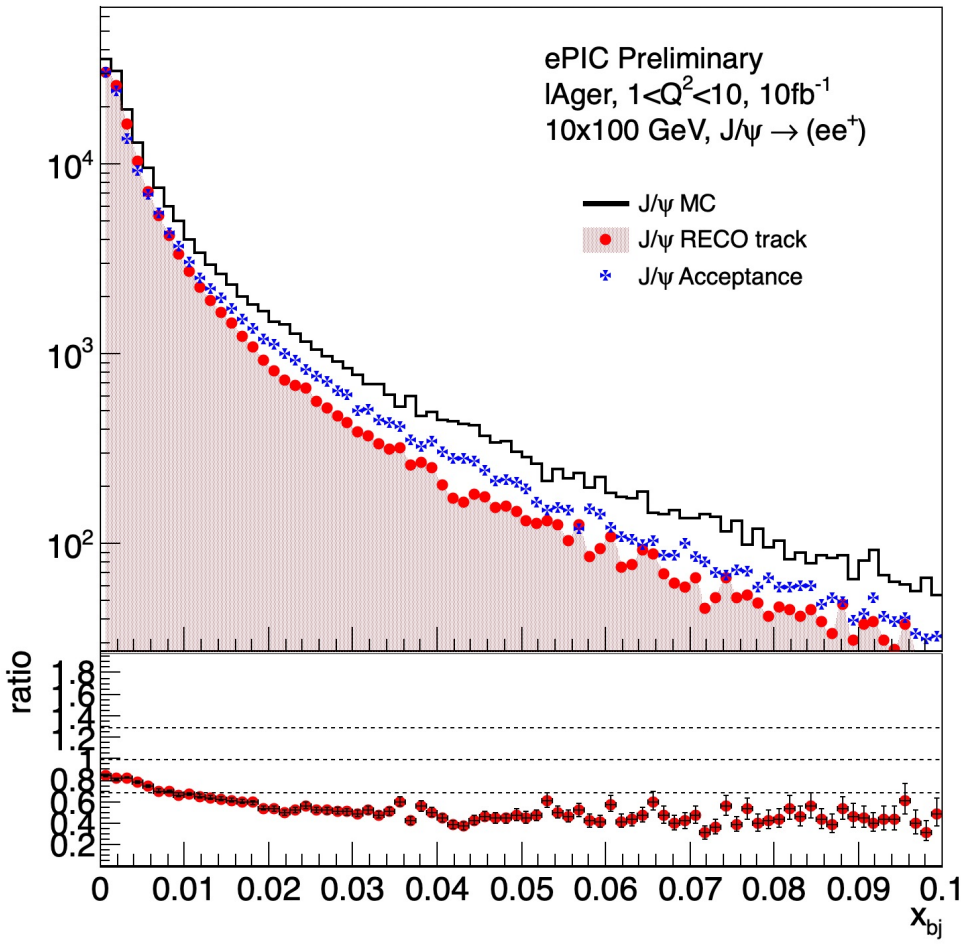

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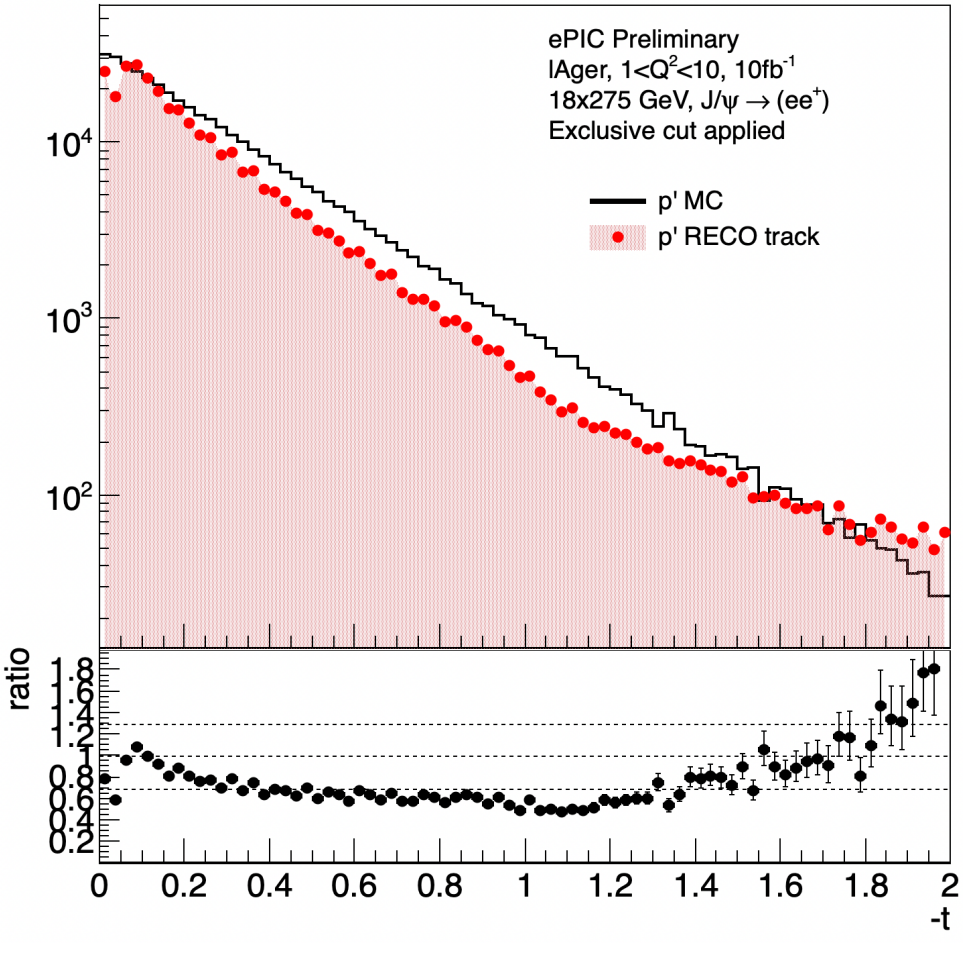

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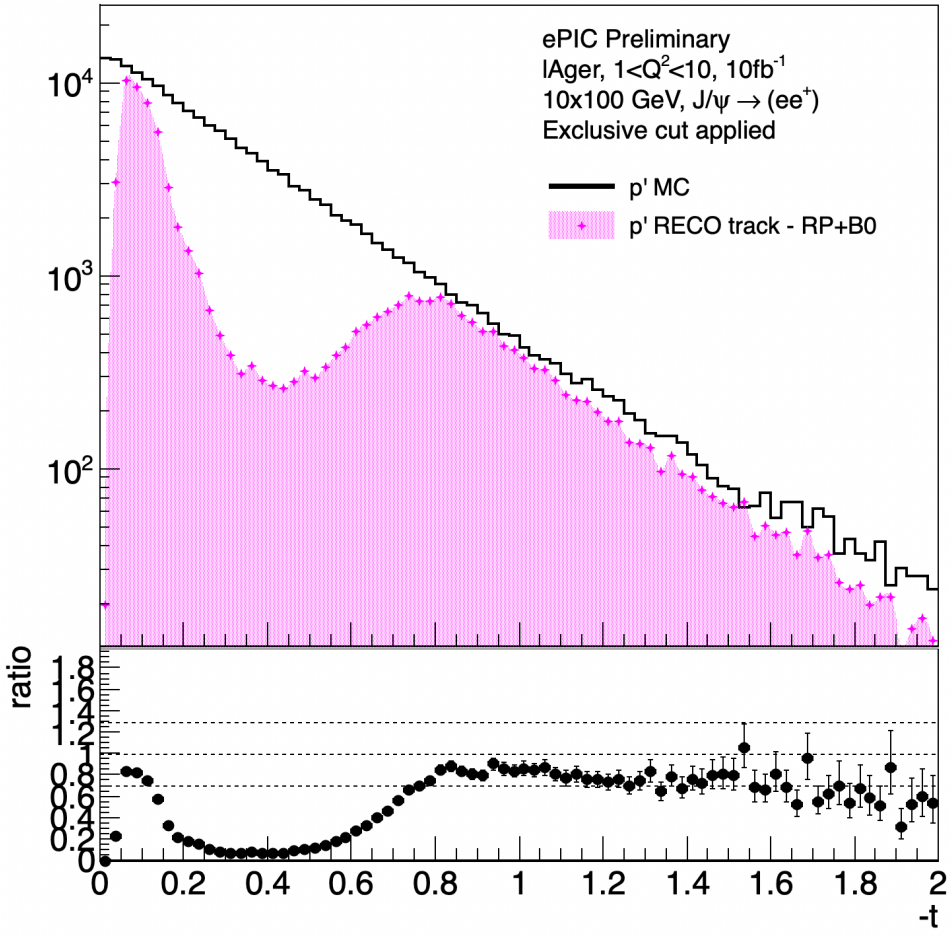

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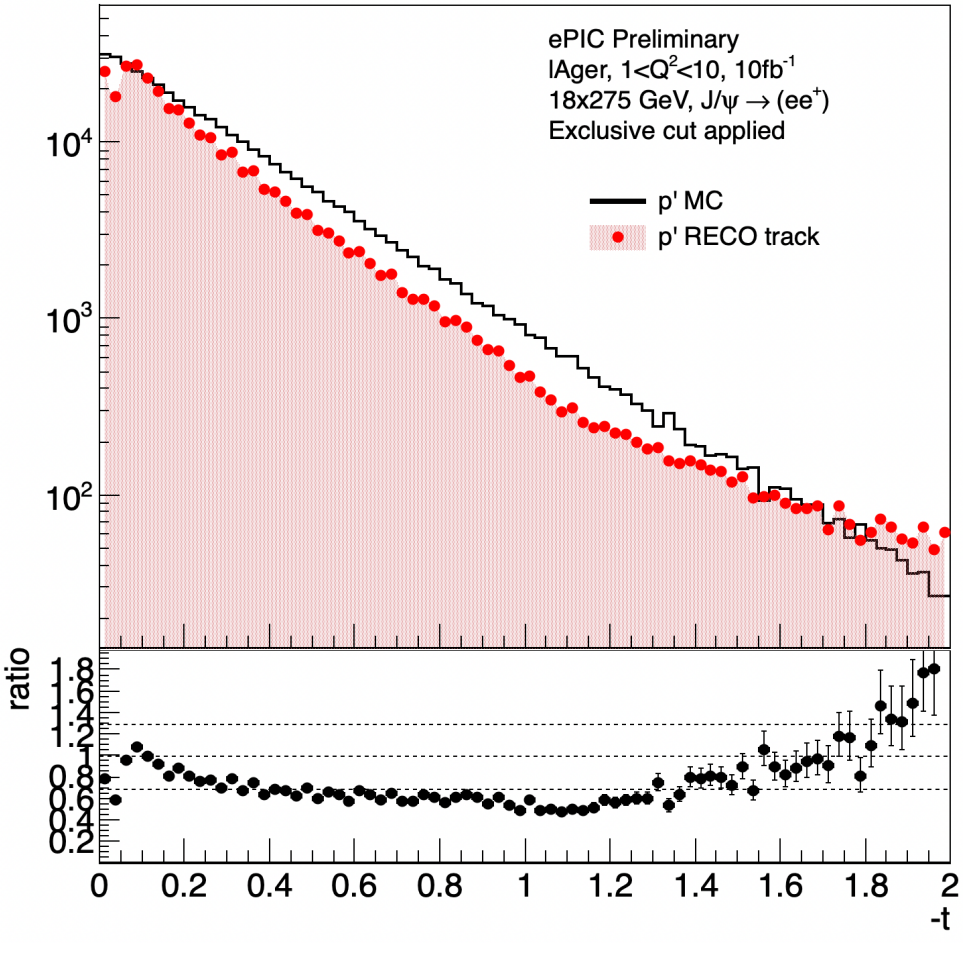

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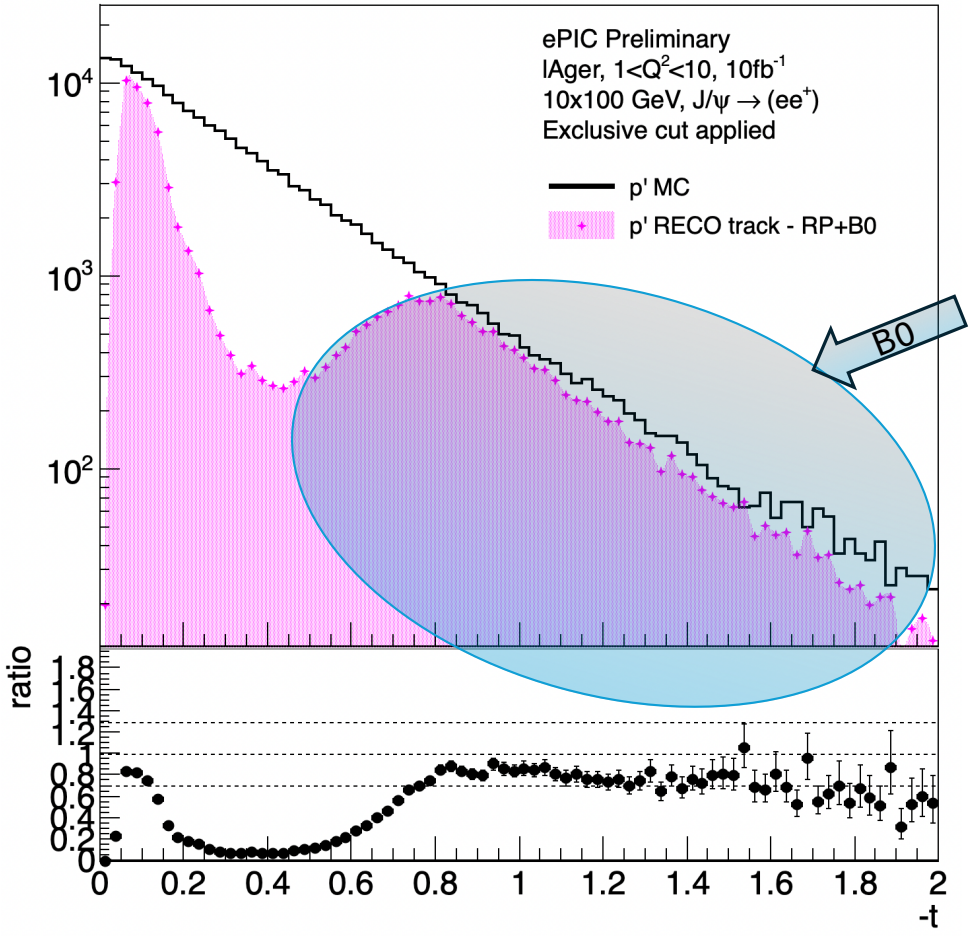

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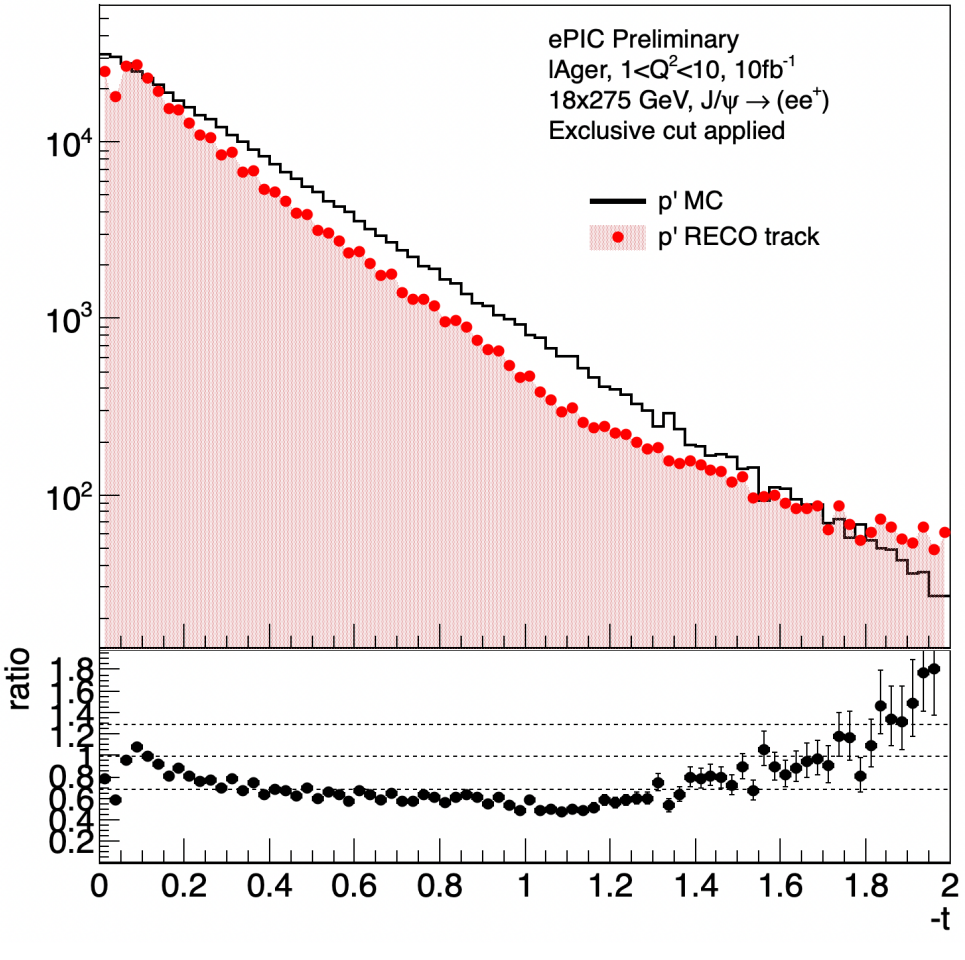

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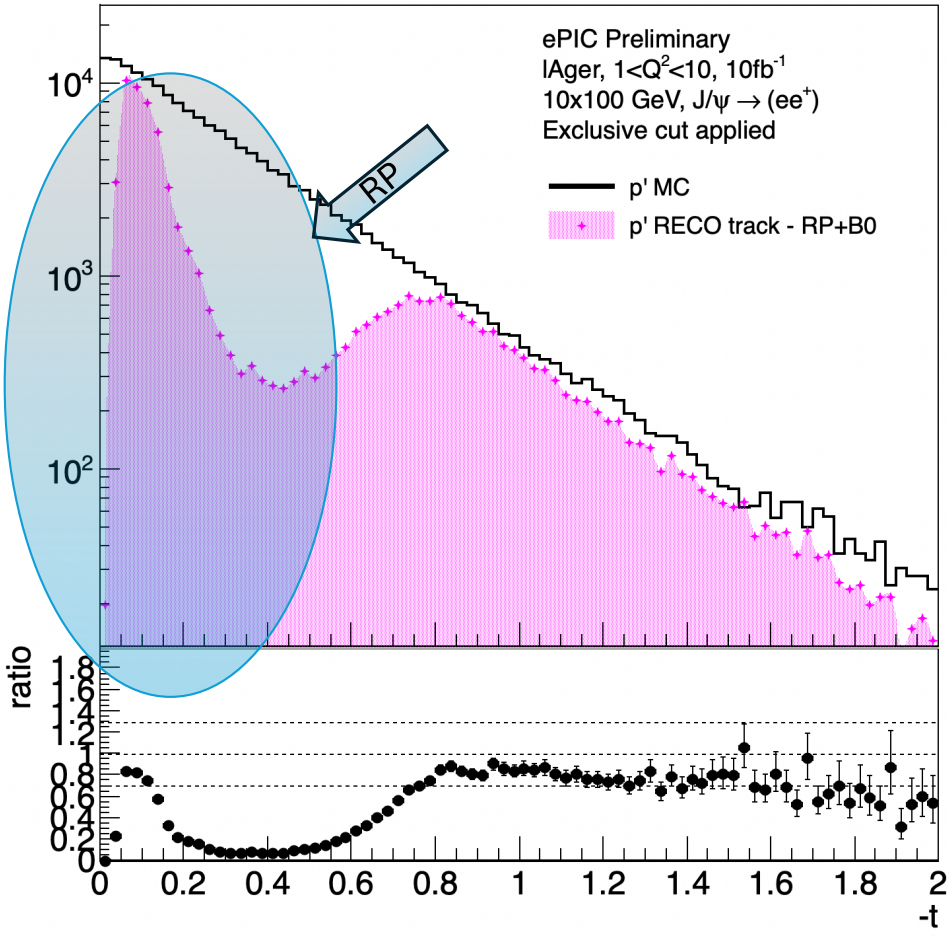

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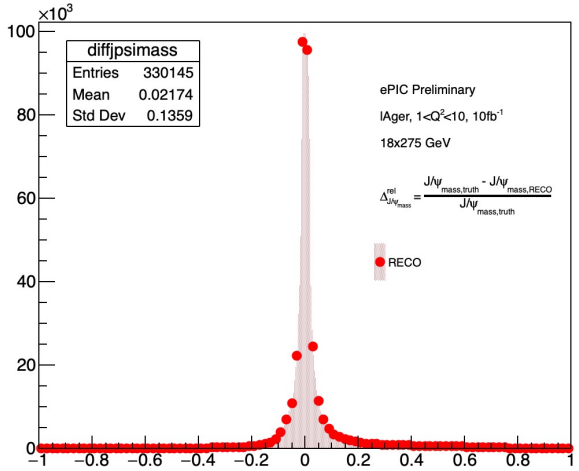

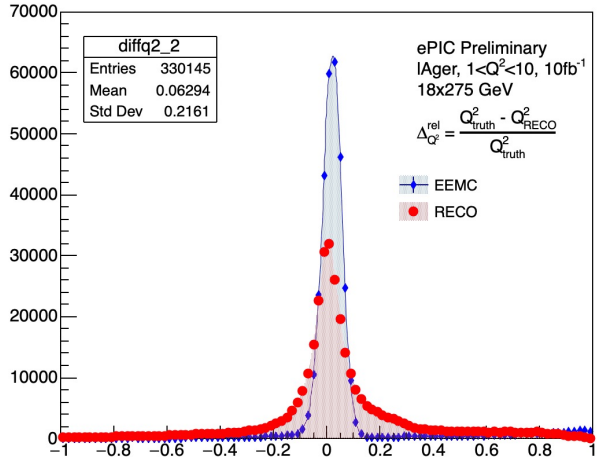

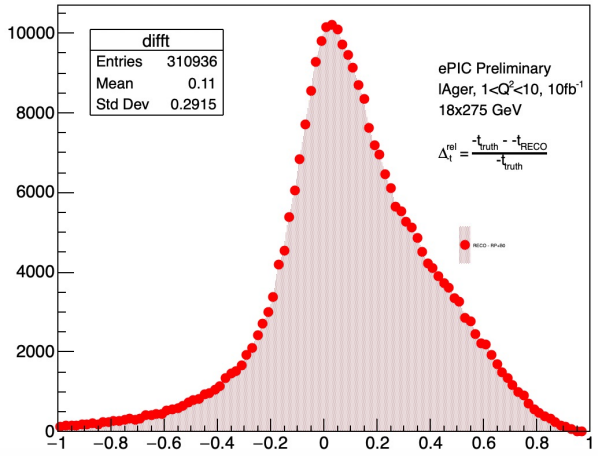

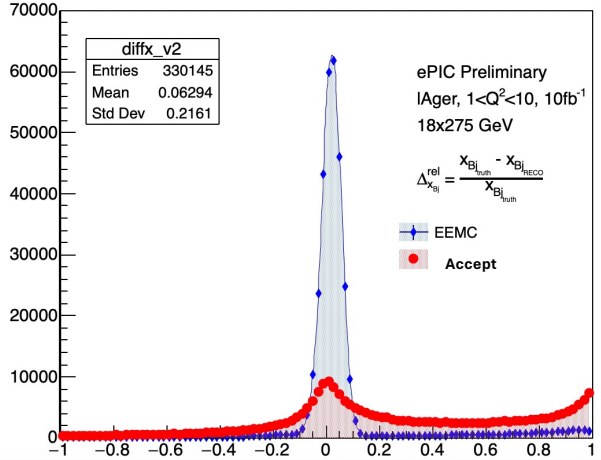

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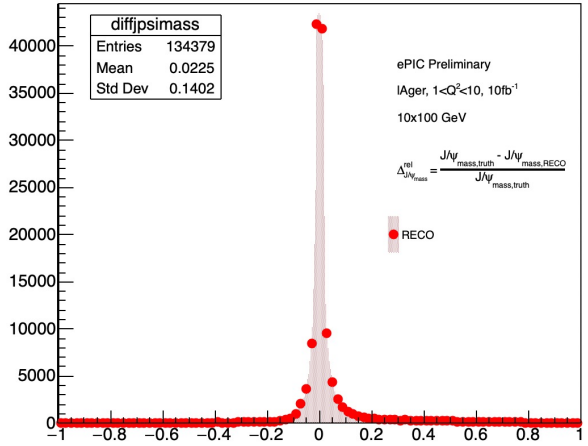

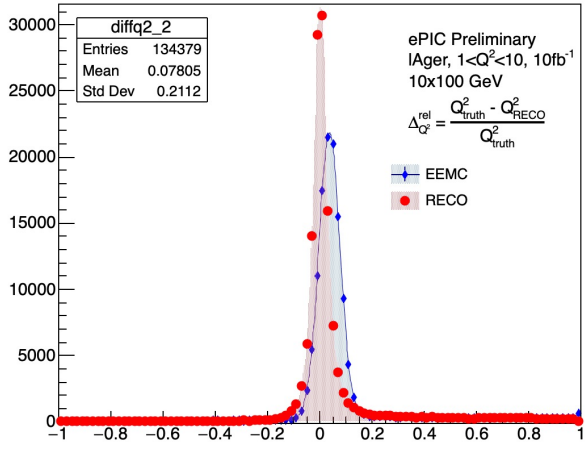

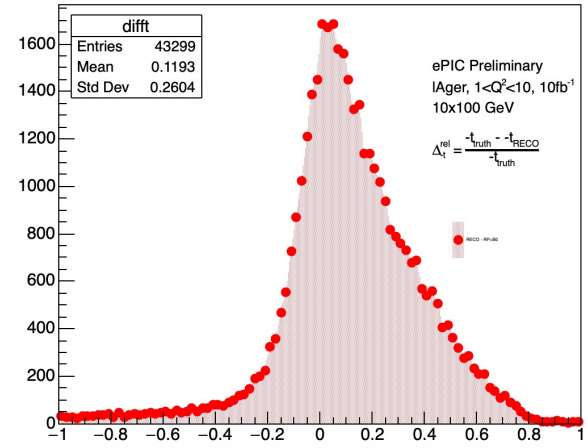

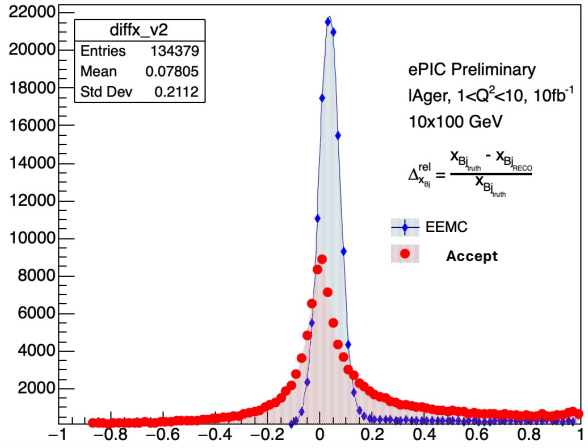

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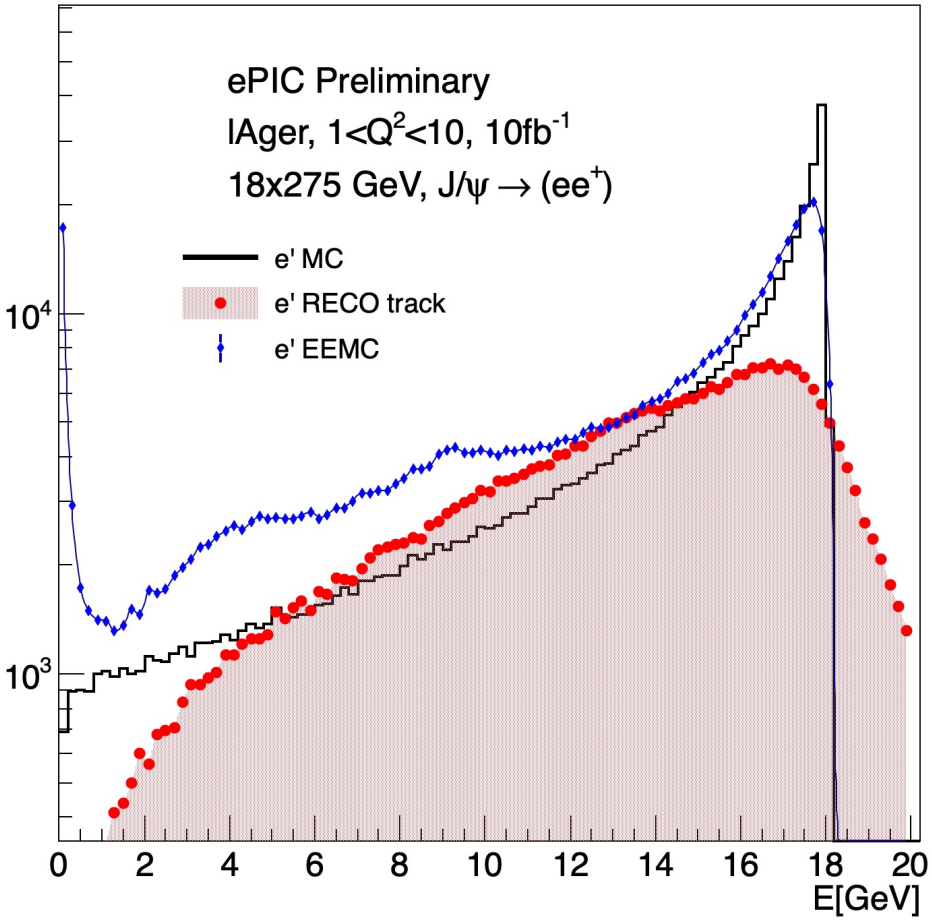

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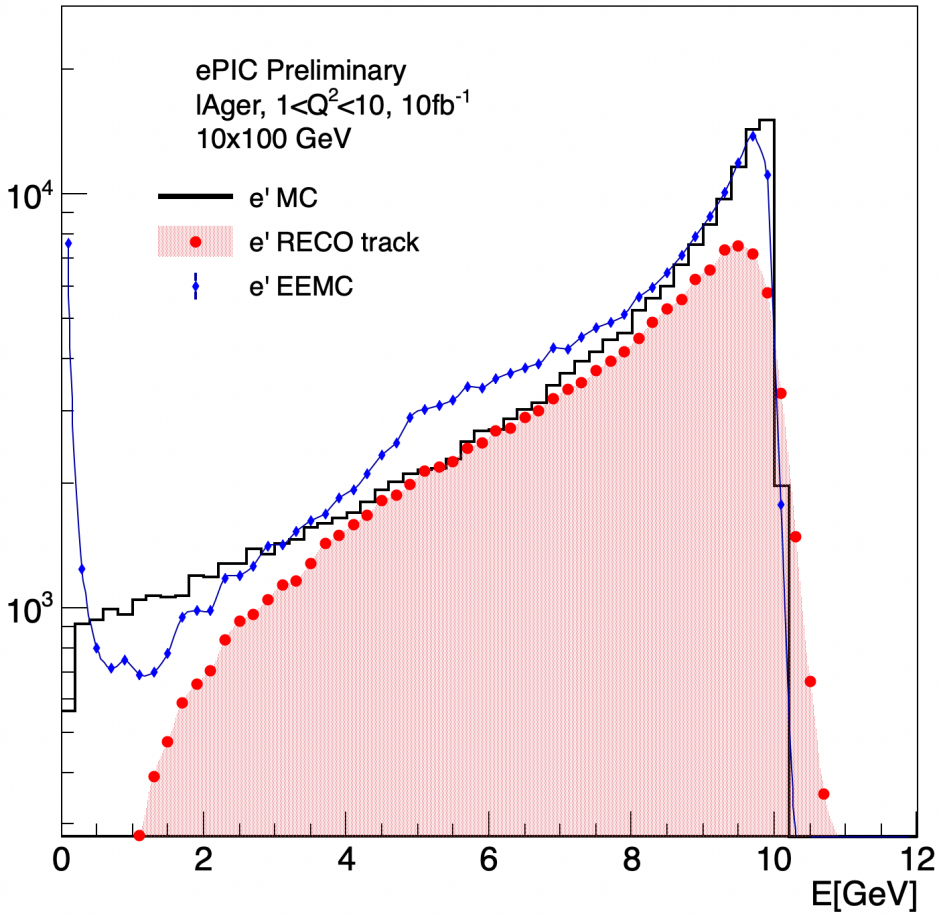

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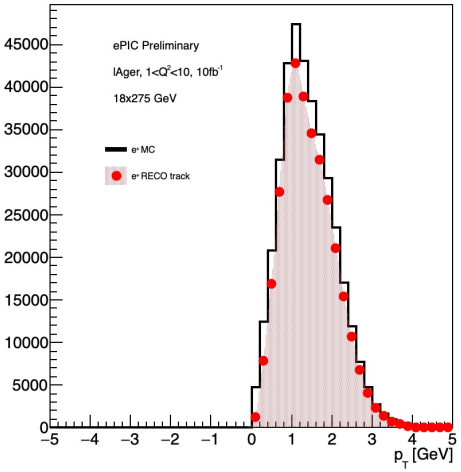

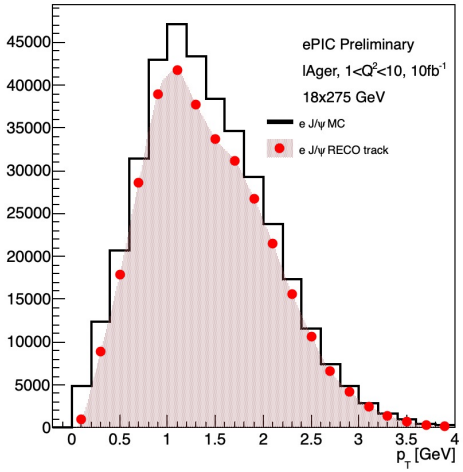

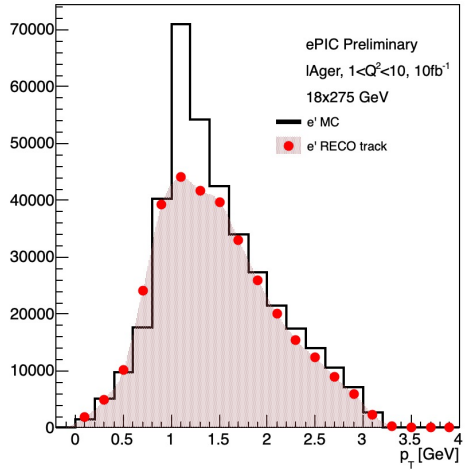

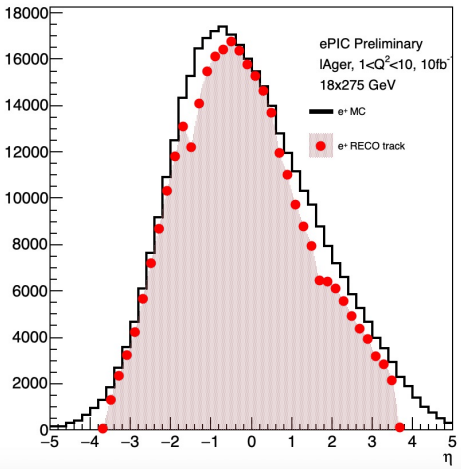

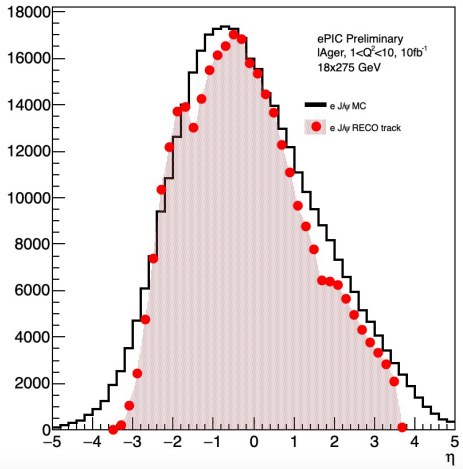

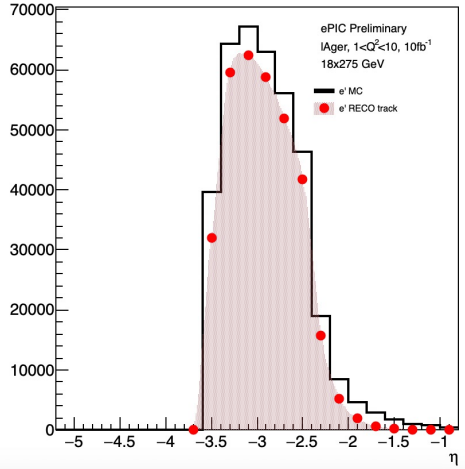

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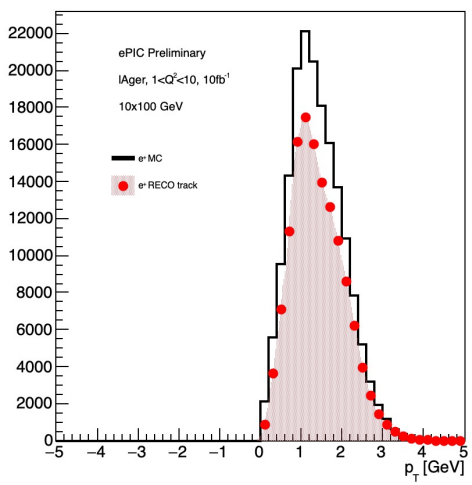

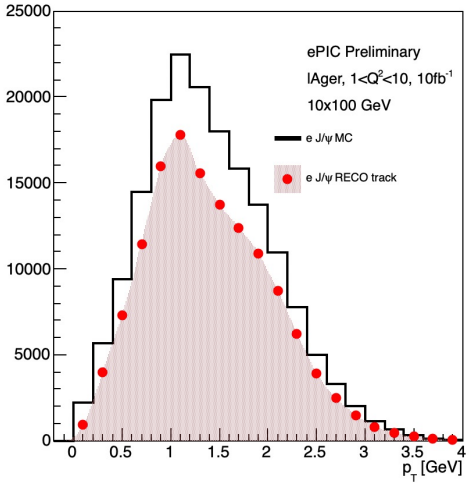

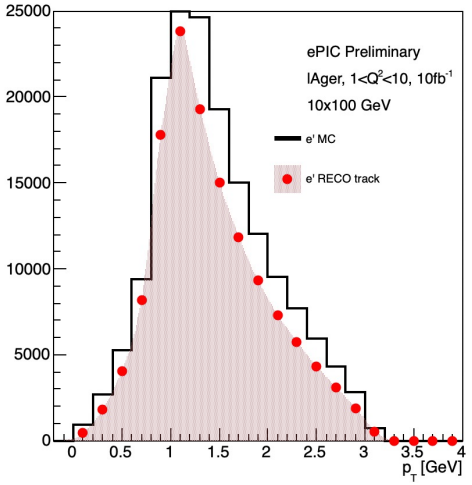

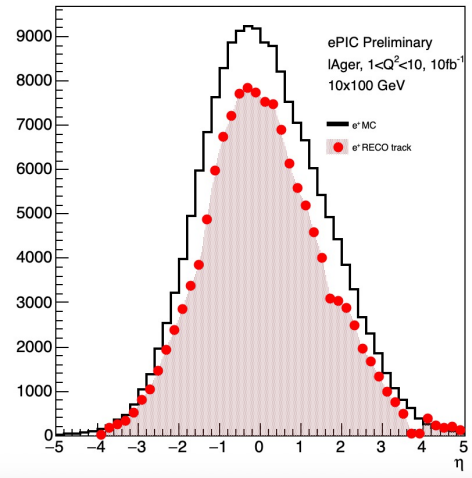

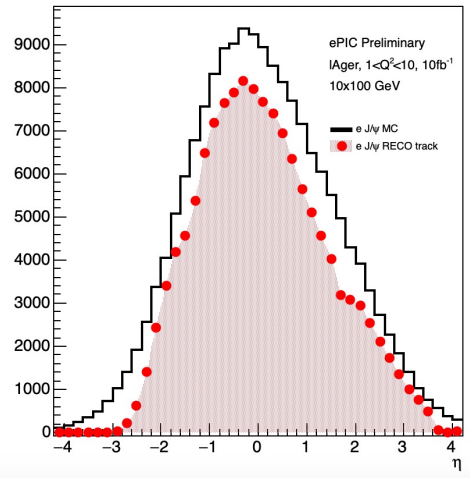

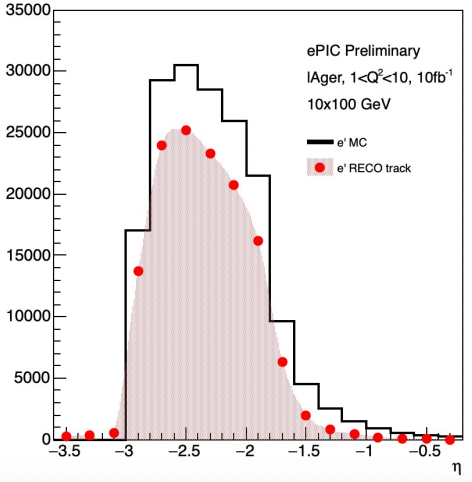

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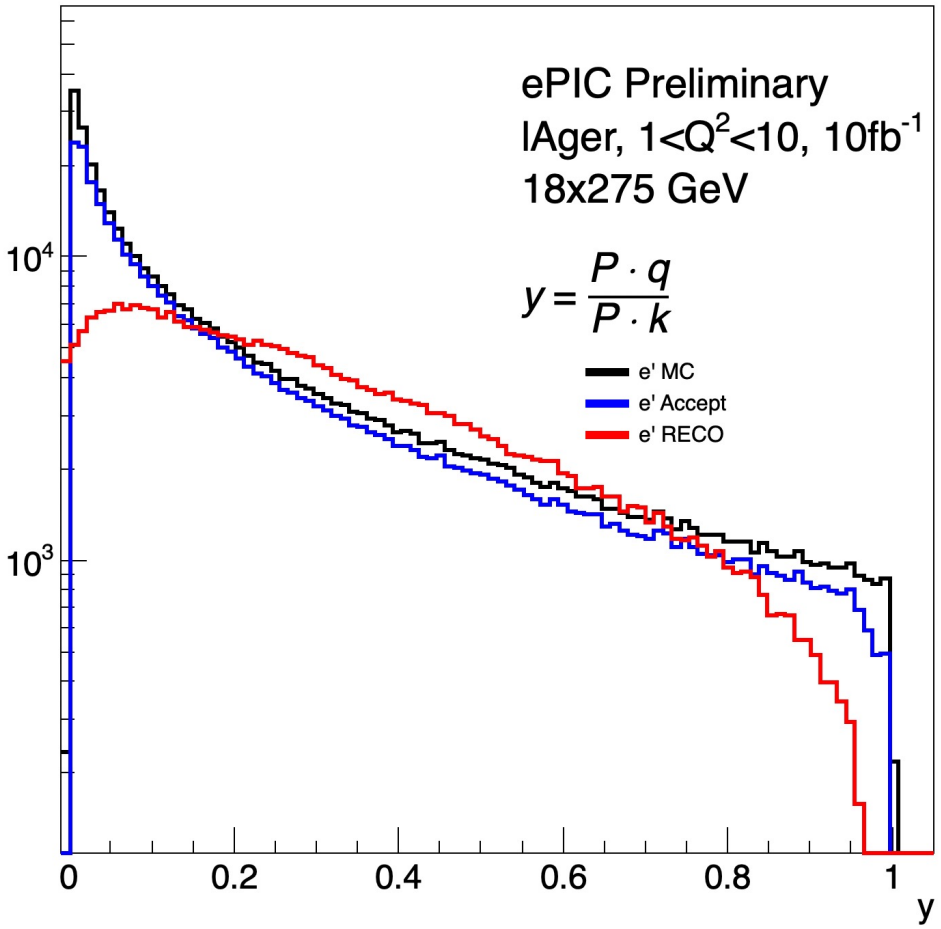

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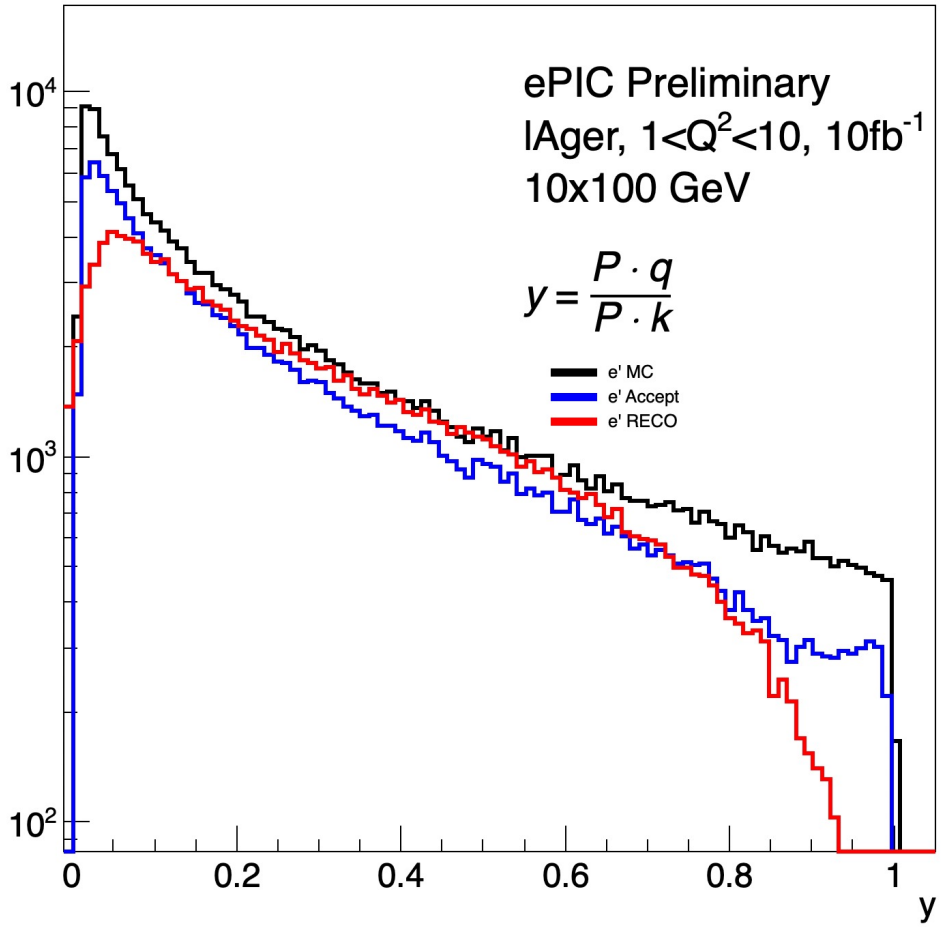

Thank You