FOCUSproduction of Charmonium

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Outline

- A preliminary study on direct J/Ψ photoproduction is presented
- J/Ψ is reconstructed via the final state $\mu^+\mu^-$ and e^+e^- detected mainly in the inner detectors (IE and IMU)
- These samples constitute, as D's FOCUS, the WORLD'S LARGEST data on charmonium photoproduction
- E_γ and P_T^2 are the two most crutial quantity to extract the proposed physics from these data
- A preliminary study on E_γ reconstruction based on plain calorimetry and muon id is presented.
  ♡ E_γ = Eoe_{Tot} + Eie_{Tot} + Ehc_{Tot} + $\sum_{i=1}^{n} E_\mu$
  ♢ E_γ = E_{inc} - $E_{Resh/Posh}$ - E_{Bgm}
- The data is compared with preliminaries
  Inelastic J/Ψ (Pythia's model),
  Elastic & Diffractive Vector Meson Production (Hector's model)
  Tagging system (Kihyeon's models) ROGUE simulations
- Bethe-Heitler simulation and a search for associated J/Ψ states is underway by one of my students while I'm at Copacabana