



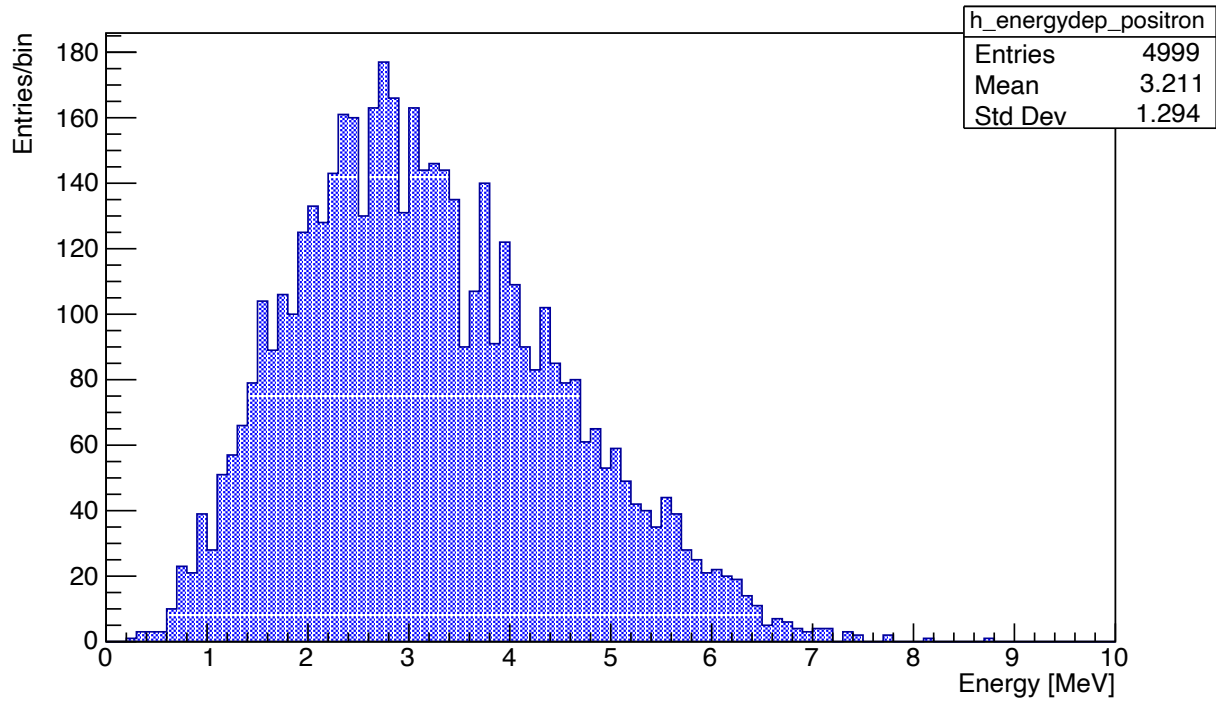
IBD Simulations with TAOsw

Roma - Milano meeting, 25 July 2024

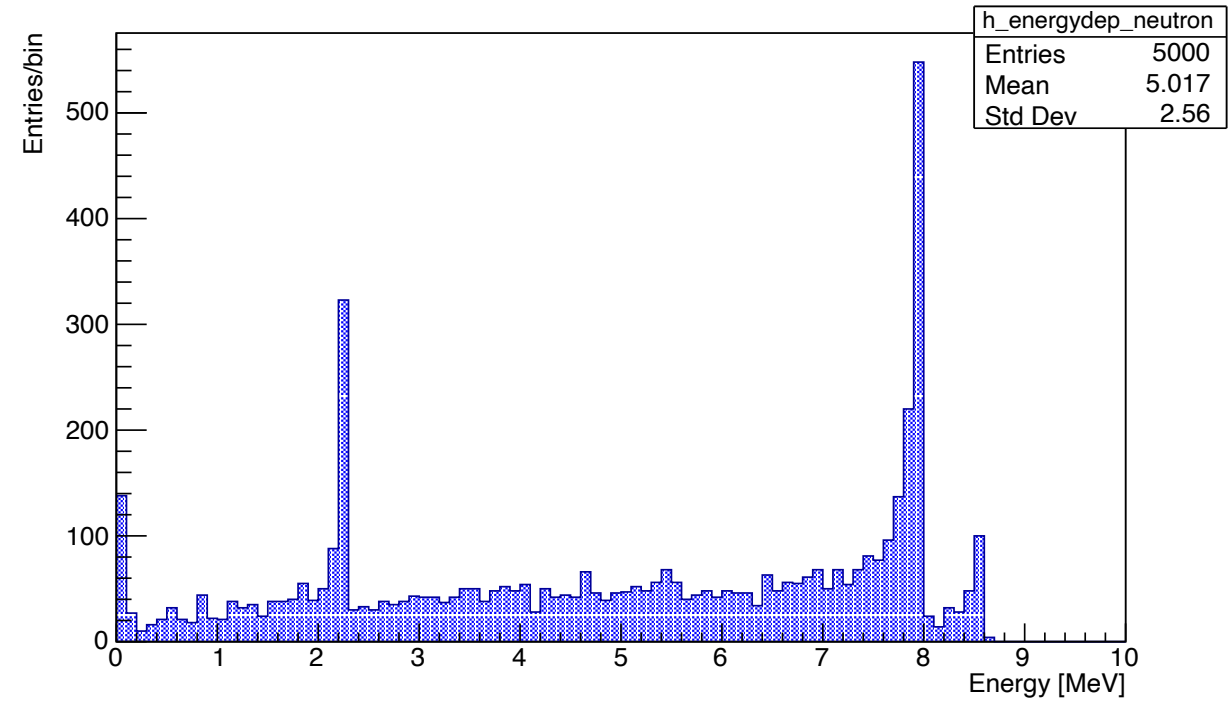
Elia Stanescu Farilla on behalf of the Roma Tre TAO group

Università degli Studi Roma Tre & INFN

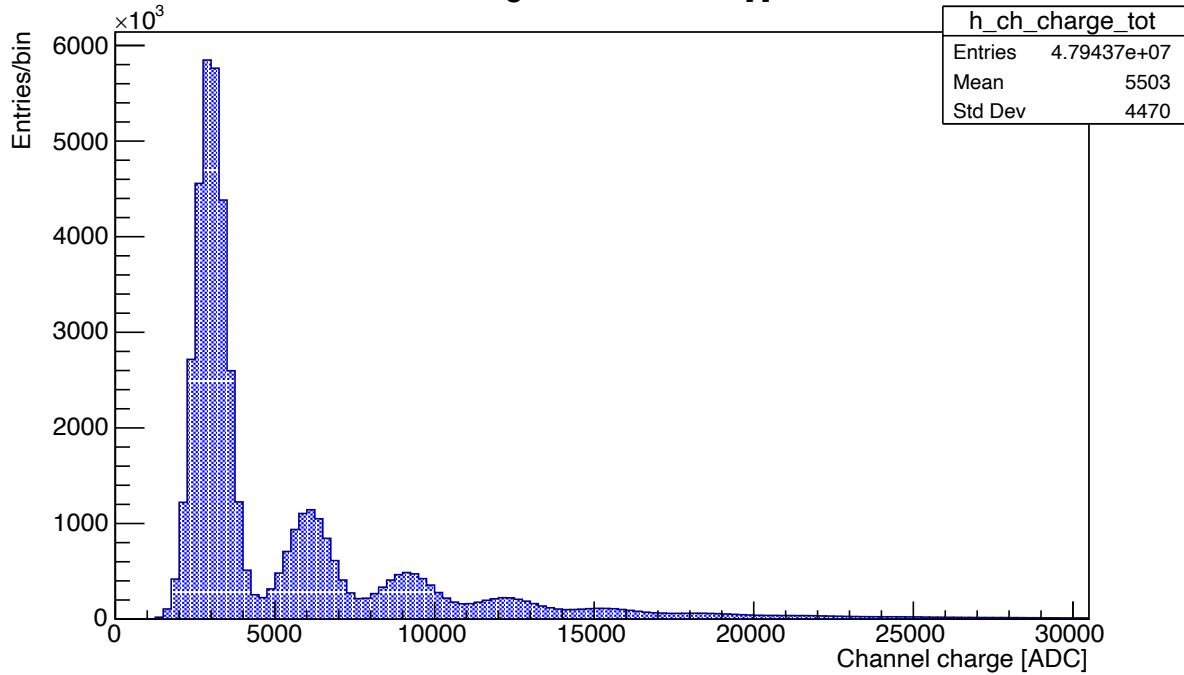
Primary deposited energy by positron



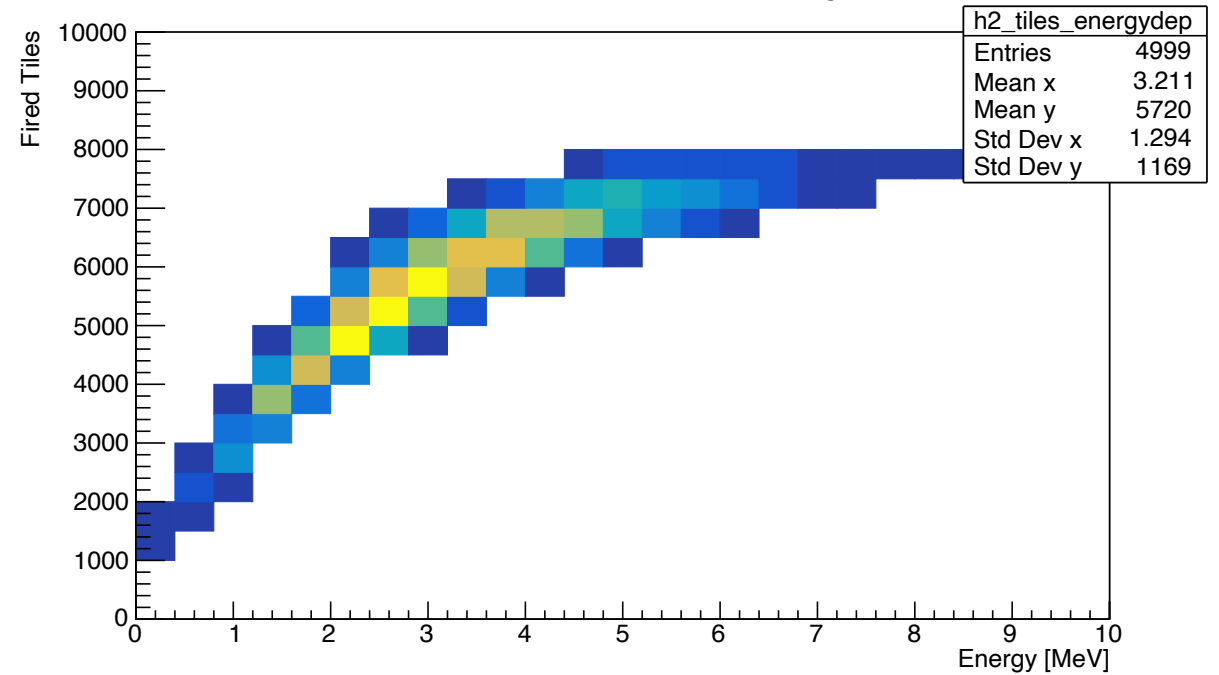
Primary deposited energy by neutron



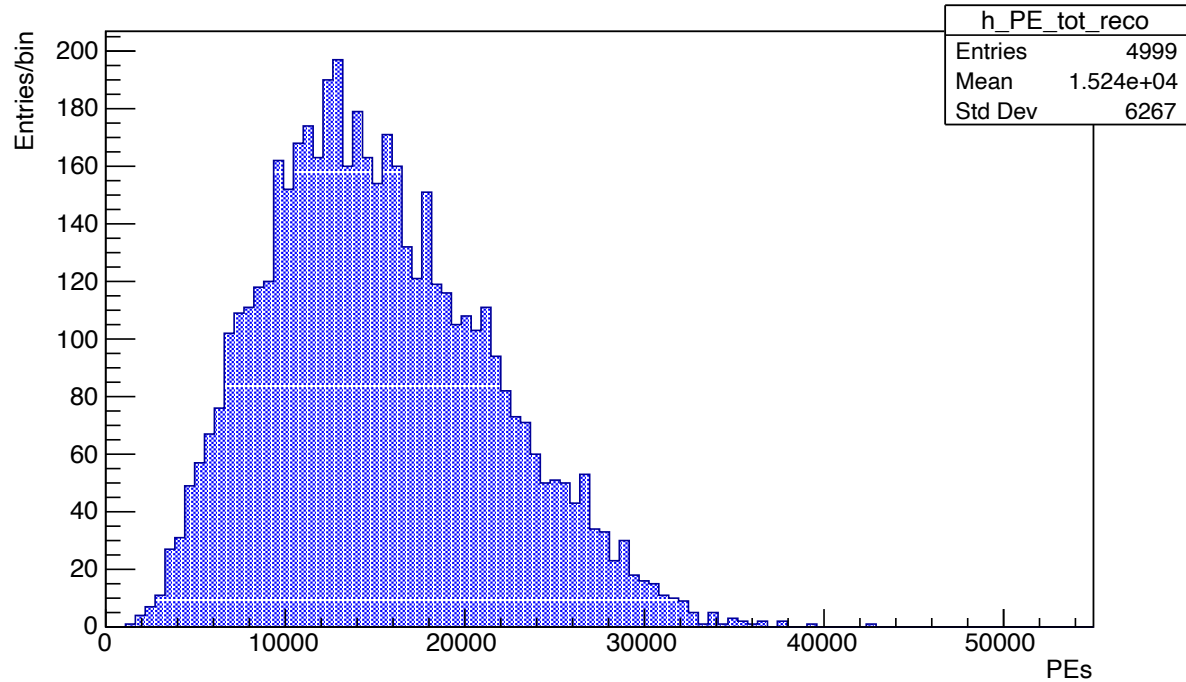
Charge total : fADCs[i]



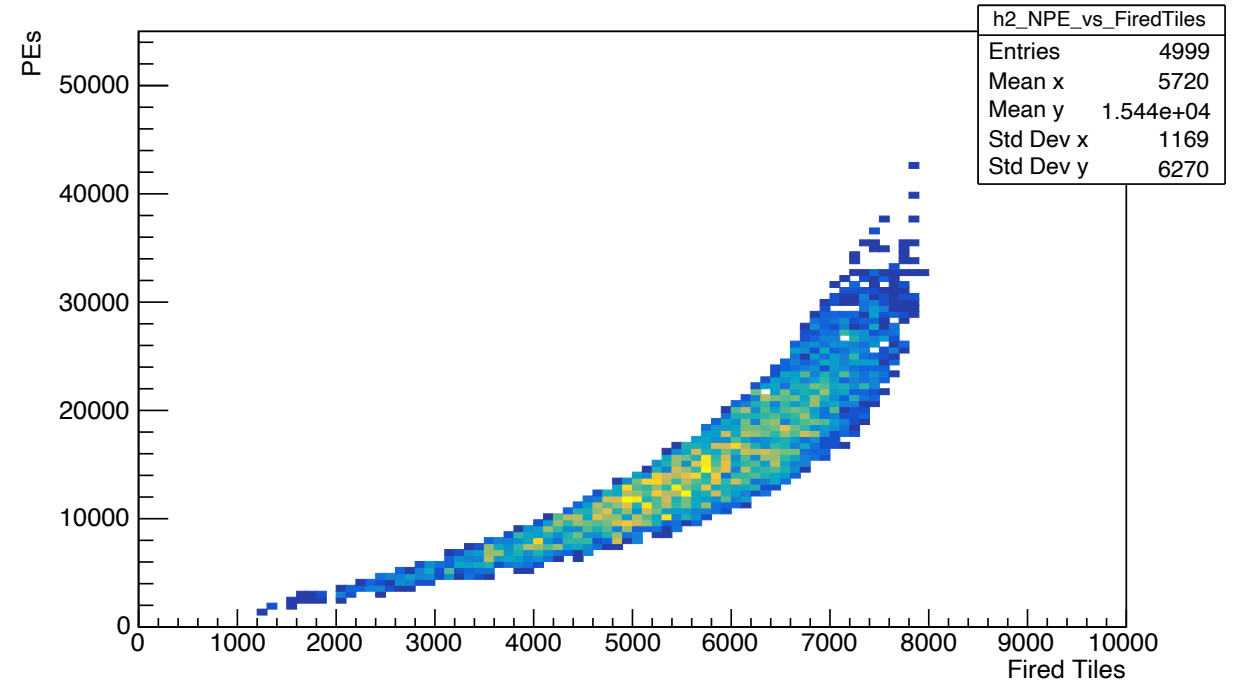
Fired Tiles vs deposited energy

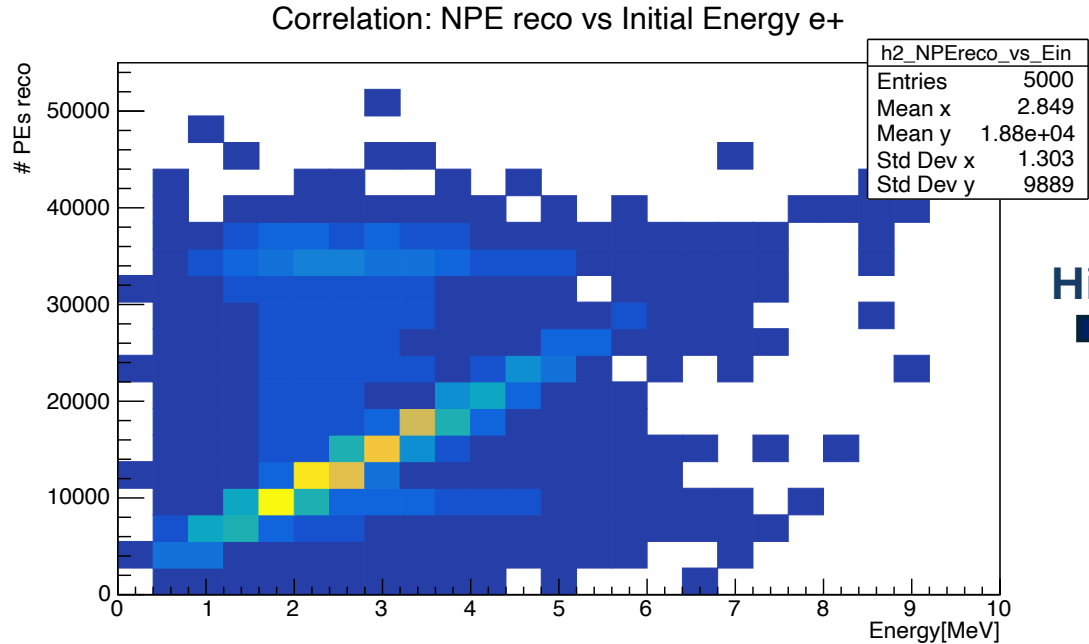


Total number of PEs for each event RECONSTRUCTED

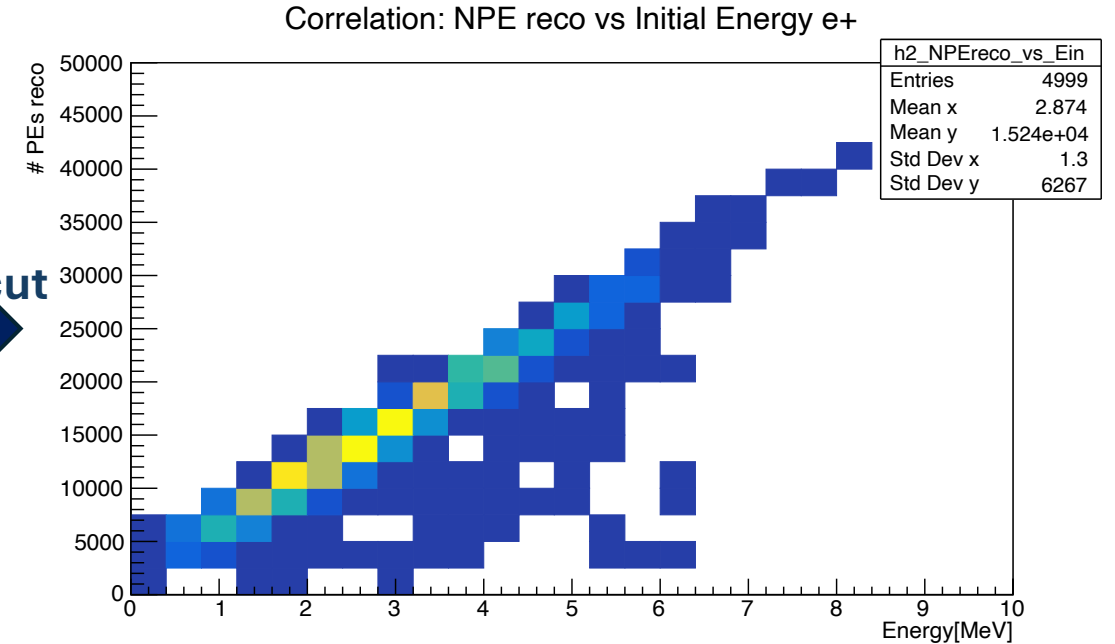


Reconstructed PEs vs Fired Tiles





Hit time cut
→



- Con la prossima release del TAOsw avremo sotto controllo la correlazione E_{reco} vs E_{true} per il positrone negli eventi di IBD
- Producendo sufficiente statistica si può ottenere una **matrice di smearing** per fare studi di sensitivity a diversi spettri di IBD

- **Specifiche del generatore di IBD “Unified IBD”:**

https://juno.ihep.ac.cn/Dev_DocDB/0082/008206/002/Validation%20of%20the%20unified%20IBD%20generator.pdf

- **Ulteriori informazioni sui generatori utilizzati in JUNOsw (a parte Muon.exe possono essere utilizzati tutti anche in TAOsw), ovvero IBD, Radioactivity e facendo digging nel doc anche altri generatori:**

<https://juno.ihep.ac.cn/~offline/Doc/user-guide/quickstart/quickstart.html#inverse-beta-decay-ibd>