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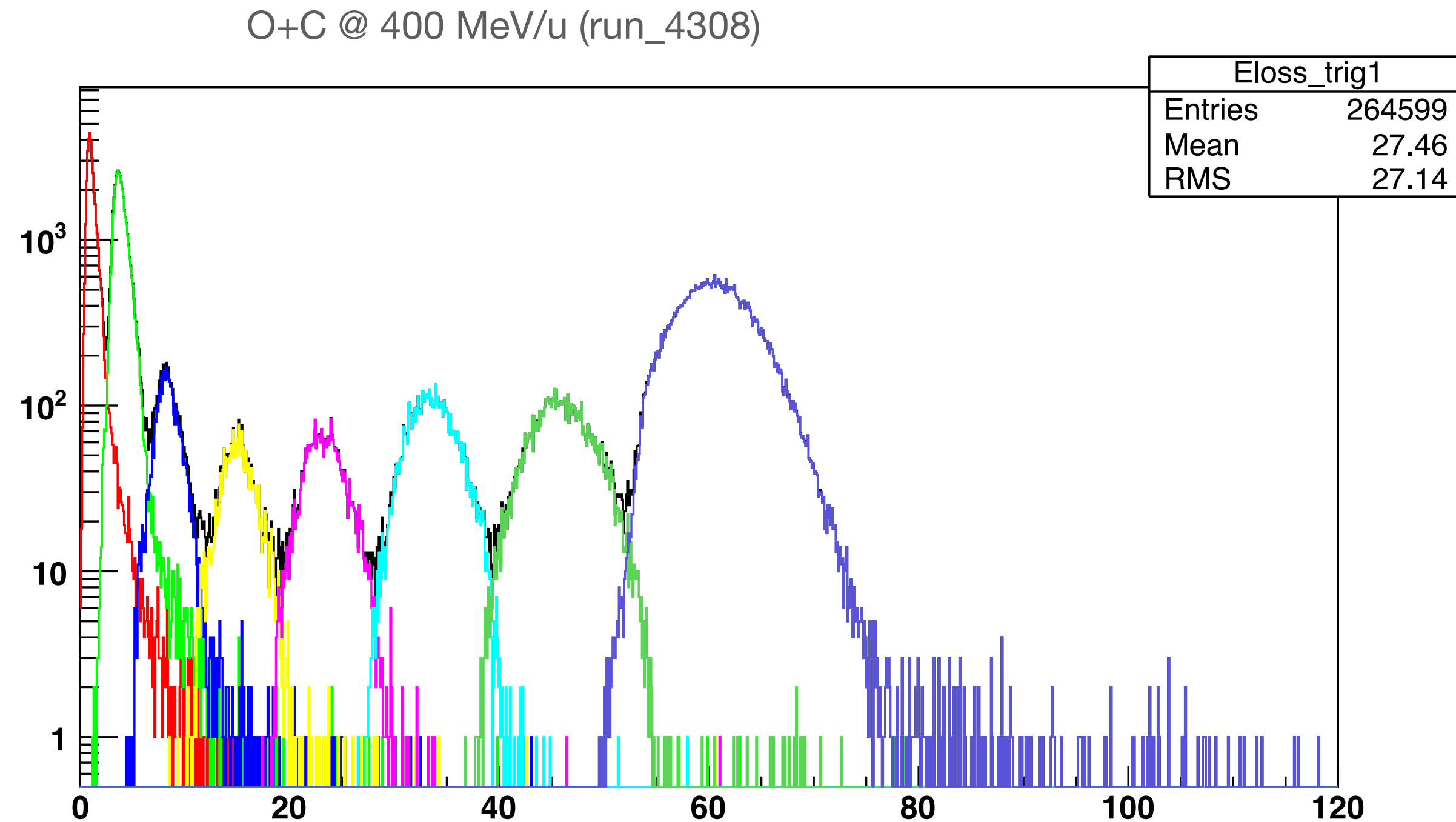
TW Z identification and point reconstruction



Marco Toppi – 26/01/2022 – FOOT software meeting

TW status in shoe: Z identification

Giacomo and Angelica already took care for last General Meeting to introduce ToF and Eloss calibration by Roberto Z (400 MeV/u) in shoe to tune the ZID algorithm in order to get some number for trigger studies



TW status in shoe: Z identification and MC

Needed updates:

- New Speed of light in bars measured by RZ needed In TATWactNtuPoint class for TW point (old value of GSI 2019)→ fundamental for ghosts and pile-up unfolding
- Tune distance from BB with $Z=1$ to cut away neutrons
- New Eloss ,Tof and position resolutions in order to tune the TW detector response in TW MC classes
- Experimental thresholds to be introduced in TATWbarsMapStatus.map (default is now used)

Conclusion

- Some work still needed to have a clean Z for TW points
- MC TW classes needed to be updated in order to have reliable detector response that means reliable efficiencies for cross section analysis and reliable Charge Mixing Matrix (CMM)...
- Some additional development to:
- Check TW algorithms using only UnTriggered MC simulations
- Introduce some flags for the user to study systematics related to algorithms of TW reconstruction and Z identification (from GSI 2019 analysis experience)
- Develop some tools for the users for CMM and TW reconstruction algorithm efficiency estimation
- Doxygen still to be introduced...

