Inclusive Diff DIS

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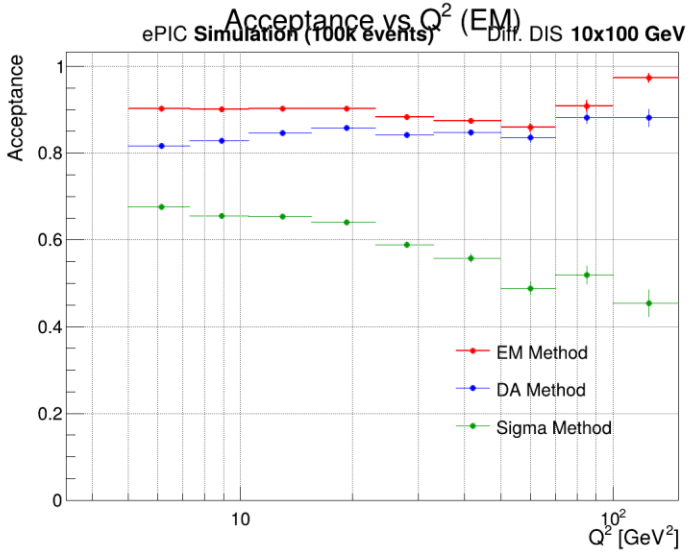
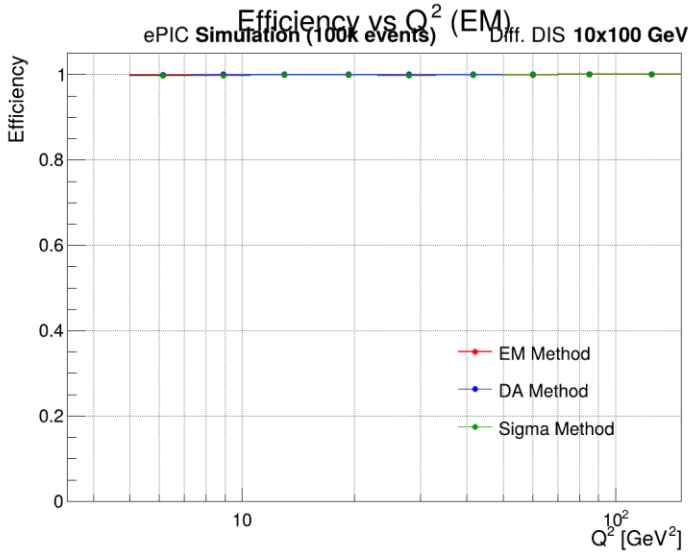
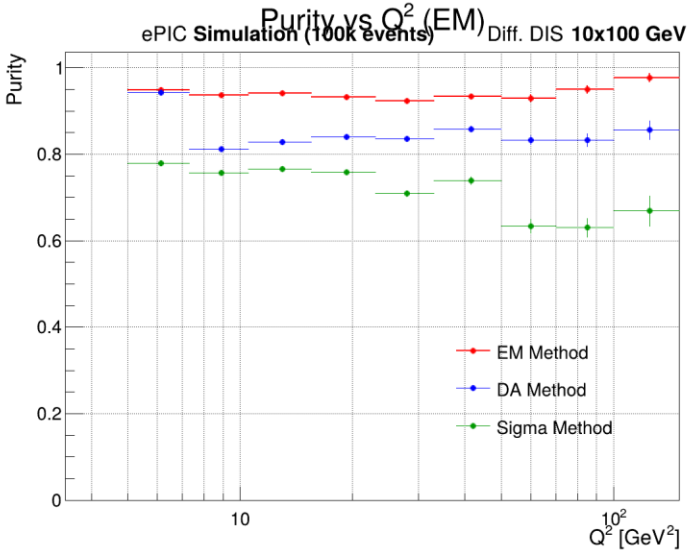
definitions

- **Acceptance:**
- Definition: Events generated in bin i AND reconstructed in bin i WITH selection cuts / Events generated in bin i
- Formula: Acceptance = N(gen in i AND reco in i with cuts) / N(gen in i)
- Physical meaning: Fraction of generated events in bin i that are successfully reconstructed in the same bin AND pass selection cuts
- **Efficiency:**
- Definition: Events generated in bin i AND reconstructed in bin i WITH cuts / Events generated in bin i AND reconstructed in bin i BEFORE cuts
- Formula: Efficiency = N(gen in i AND reco in i with cuts) / N(gen in i AND reco in i before cuts)
- Physical meaning: Fraction of reconstructed events (in correct bin) that pass the selection cuts; measures cut efficiency
- **Purity:**
- Definition: Events generated in bin i AND reconstructed in bin i / All events reconstructed in bin i
- Formula: Purity = N(gen in i AND reco in i) / N(all reco in i)
- Physical meaning: Fraction of reconstructed events in bin i that truly originated from bin i; quantifies bin contamination from migrations

Acceptance, efficiency and purity







- Currently working on the acceptance, efficiency and purity
- In parallel will work on the rapidity gap method
- Plot η_MAX distribution : have
- Validate kinematics: have
- Check resolutions : partially have
- Test binning schemes: need to do