

Tutorials on event generators

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PYTHIA & PHOJET:

1. Compare the rapidity distribution of charged particles in Single-Diffractive, Double-Diffractive and Non-Diffractive events.
2. Estimate the average fraction of particles produced in an event.
3. Compare the rapidity and pseudo-rapidity distribution of a massive (pion or kaon or proton) and massless particle (gamma).
4. Reconstruct a resonance particle (phi meson) using invariant mass technique.

HIJING:

5. Test the effect of shadowing off and on in the $dN_{ch}/d\eta$ distribution
6. Test the effect of jet quenching off and on in heavy-ion collisions

AMPT:

7. Compare elliptic flow of charged hadrons in Au+Au collisions at 200 GeV in Default and String Melting versions of AMPT model.