

**CMS Simulation Preliminary**

**14 TeV**

Number pileup tracks / PV

**$t\bar{t}$  event tracks, PU 200**

**$p_T > 0.9$  GeV,  $|\eta| < 3.0$**

- 3D vertex (no timing)
- 4D vertex, 30 ps, 100% eff
- 4D vertex, 40 ps, 100% eff
- 4D vertex, 50 ps, 100% eff

