

Monte Carlo Top Quark Mass Calibration

Friday 29 September 2017 12:40 (20 minutes)

The top quark is the heaviest of all discovered particles so far. Knowing its mass precisely is of utmost importance to test the validity of the Standard Model. The most precise measurements performed at Hadron Colliders determine the MC top quark mass parameter. Relating this parameter to a field-theoretically well defined mass is necessary if those determinations are to be used as input to high-order perturbative computations. In this talk I will show how this calibration can be performed by comparing hadron-level MC output to ab-initio computations within QCD. For this comparison to work, one must choose a low-scale short-distance mass. In our analysis we employ the so called MSR mass, and find out that the MC top quark mass parameter is numerically very close to the MSR mass with $R = 2 \text{ GeV}$, but far off the pole mass.

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Session Classification: QCD and hadron structure

Track Classification: QCD and hadron structure