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## Measurement of the pole mass of the top quark using $p\bar{p} \rightarrow t\bar{t}$ production cross sections at D0

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We present an alternative approach to the direct measurements of the top quark mass using D0 data. We discuss extractions of the pole mass of the top quark based on measurements of the inclusive and unfolded differential  $p\bar{p} \rightarrow t\bar{t}$  production cross section as a function of  $p_T(t)$  and  $t\bar{t}$  mass. We use the full Run II data set of  $p\bar{p}$  collisions collected by the D0 experiment, corresponding to an integrated luminosity of  $9.7 \text{ fb}^{-1}$ .

### Experimental Collaboration

D0

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