



Contribution ID: 660

Type: **Presentation**

Cross section and differential distributions for top quarks near the production threshold

Thursday 27 June 2019 09:30 (20 minutes)

A top threshold scan at the FCC-ee could provide a measurement of the top-quark mass in a well-defined scheme with unrivaled precision as well as a determination of the top-quark width and Yukawa coupling. The threshold region is subject to two interesting effects, the strong color-Coulomb attraction between the top quarks which drives the formation of toponium resonances and the fast top-quark decays which impedes this formation, and both need to be incorporated in a sophisticated effective theory framework to obtain reliable results. I review the current status of theoretical predictions for the inclusive $W^+W^-b\bar{b}$ cross section and differential distributions and present sensitivity estimates for the mass and other parameters.

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Session Classification: FCC physics, experiments & detectors

Track Classification: Physics