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Top Physics at FCC-ee (15' + 5')

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In the framework of the FCC project, the FCC-ee collider program contains a specific run at the center of mass energy around 350 GeV with an integrated luminosity corresponding to the production of about 1 Million top quark pairs. The ultimate goal is to obtain the most precise measurement of the top mass with a threshold scan from 340 to 350 GeV. However, the top physics program at the FCC-ee is extremely rich and comprises, among other measurements, the study of the achievable precision at or below the per-cent level on top couplings to Z and gamma with a specific scan just above the top-pair threshold ($\sqrt{s} \sim 365\text{-}370$ GeV), the indirect measurement of the top-Yukawa coupling, top width, processes with FCNC and rare top decays. It can be shown that the precision obtained at this machine is able to probe new physics scales up to several TeV and to fully characterize a large variety of Composite Higgs models. This result in a perfect complementarity with direct measurements obtained in the top sector and elsewhere with the FCC-hh 100 TeV machine later on.

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