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## The proton-air inelastic cross-section measurement at $\sqrt{s} \sim 2$ TeV from EAS-TOP experiment.

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The proton-air inelastic cross section measurement at  $\sqrt{s} \sim 2$  TeV from the EAS-TOP Extensive Air Shower experiment is reported. The technique exploits cosmic ray proton primaries, in the energy region  $E_0 = 1.5 - 2.5 \times 10^{15}$  eV, studying the absorption length of their cascades when detected at maximum development. Primary energies are selected through the EAS muon number, and proton originated cascades at maximum development by means of the shower size. The shower and detector fluctuations are obtained by means of simulations performed using the CORSIKA code and the QGSJET II and SIBYLL interaction models. The statistical and systematic uncertainties, as well as the relationships with the pp total cross section measurements are discussed.

**Primary author:** Dr TRINCHERO, Gian Carlo (INAF-IFSI and INFN Torino)

**Presenter:** Dr TRINCHERO, Gian Carlo (INAF-IFSI and INFN Torino)

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