

## The Inelastic proton-air cross section at $\sqrt{s} \sim 2$ TeV from EAS-TOP data

G. C. Trinchero, on behalf of EAS-Top Collaboration

Istituto di Cosmogeofisica, INFN, Torino..

**Abstract.** The proton-air inelastic cross section is studied at energies  $E_0 \approx 10^{15}$  eV by using the EAS-TOP array data. The rates of showers at different zenith angles (i.e. different atmospheric depths) are measured.

Showers generated by proton primaries and near to maximum development are selected by choosing high  $N_e$  values in a fixed  $N_\mu(E_\mu) > 1$  GeV (i.e. primary energy) range.

The proton-air inelastic interaction length  $\lambda_{p-air}$  is inferred from the relation  $\Lambda_{obs=k\lambda_{p=air}}$  where  $k$  is obtained from simulations and  $\lambda_{obs}$  is the observed attenuation of showers rate. Final results, including the full EAS-TOP data set are presented and discussed.