



Contribution ID: 199

Type: Poster

The energy dependence of the tetraquark production cross section

We develop a very first model to describe the energy dependence of the tetraquark production cross section in proton-proton collisions. The model implements a mixture of two different formalisms. It uses the Double Parton Scattering (DPS) to describe the production of two quark pairs (a $q_1 \bar{q}_1$ plus a $q_2 \bar{q}_2$) and uses the Color Evaporation Model (CEM) to describe the coalescence of the two quark pairs in a compact tetraquark state. After using the experimental value of the $X(3872)$ production cross section announced by the CMS collaboration we fixed the parameters of our model at 7 TeV and make predictions for 14 TeV. We also make predictions for the production cross section of the T_{4c} , a tetraquark composed of 2 $c\bar{c}$ pairs, for the energies of the LHC.

Authors: CAZAROTO, Erike (University of Sao Paulo); CARVALHO, Fabiana (Federal University of Sao Paulo); NAVARRA, Fernando (University of Sao Paulo); GONÇALVES, Victor (Universidade Federal de Pelotas)

Presenter: CAZAROTO, Erike (University of Sao Paulo)

Session Classification: Poster Session

Track Classification: Heavy Flavour physics