Contribution ID: **1434** Type: **Poster**

Challenging exclusive top quark pair production at low and high luminosity LHC

Friday 19 July 2024 20:40 (20 minutes)

We investigate the elastic production of top quark pairs ($t\bar{t}$) in pp collisions at low and high luminosities. We extend the study of the sum of two semi-exclusive $t\bar{t}$ production modes, namely in photon–Pomeron ($\gamma - IP$) and Pomeron–Pomeron ($IP - IP$) interactions. We consider semi-leptonic $t\bar{t}$ decay, tagging of both forward protons, and low pile-up. We find that the measuring the sum of $IP - IP$ and $\gamma - IP$ is feasible. Separating individual channels is challenging at high-luminosities. The $\gamma - IP$ signal is separable from backgrounds at low pile-up, allowing to probe the $\gamma - IP$ interactions.

Alternate track

I read the instructions above

Yes

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