Φ Electro-production in Pomeron Exchange Model

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Abstract: Based on the Pomeron exchange model, elastic production of Φ meson in electron-proton interaction is investigated with both linear and non-linear Pomeron trajectories. The numerical calculations of the differential cross section for $e+p \rightarrow e'+p+\Phi$ are performed. The theoretical predictions show that the dependence of the differential cross section on virtual photon virtuality, Q^2, is of moderation, the change of the energy scale parameter s_0 causes moderate effect on the differential cross section, and the linear trajectory is a good approximation to non-linearity of the Pomeron trajectory, in particular, at small momentum transfer region $|t| \leqslant 0.2$ GeV^2.

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