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Gluon saturation effects in exclusive heavy vector meson and in $c\bar{c}$, $b\bar{b}$ photoproduction

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We study exclusive J/Ψ , Υ , $b\bar{b}$ and $c\bar{c}$ photoproduction for proton and Pb targets in the high-energy limit, with the energy dependence computed using the linear Balitsky-Fadin-Kuraev-Lipatov and the nonlinear Balitsky-Kovchegov evolution equations. The difference between these two evolution equations can be directly attributed to gluon saturation physics. We find that for proton targets there is no difference between the two approaches at the energies of the currently available data, while for Pb targets data shows a clear preference for the evolution with gluon saturation.

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