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Exclusive eta_c at the EIC from the small-x evolved odderon

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In this contribution I would like to present our recent computation of exclusive eta_c production in e+p and e+A collisions [1] in the Color Glass Condensate framework. While the original suggestion for this channel as a potential probe of the QCD odderon [2] was made some time ago [3], obtaining a realistic estimate for the cross section remains a challenge. A recent attempt at moderate-x was made here [4]. Our main goal is to try and improve this situation, thereby assesing the potential for the measurement of exclusive eta_c at the EIC. Focusing on small-x kinematics we have explicitly solved the running coupling Balitsky-Kovchegov (BK) equation for the coupled pomeron-odderon distributions in case of a proton and a nuclear target. For the pomeron we have used the initial condition set by the phenomenological fit [5] that, together with the unitarity of the dipole distribution, provides some constraints on the odderon. Since the odderon distribution is explicitly impact parameter b_T dependent, we have solved the BK system by treating b_T as an external parameter. Using this setup we are able to get an upper bound of the eta_c cross section in this particular model. In a comprehensive study for the EIC kinemtics, our cross section estimates also take into account the background in case when the target emits a coherent photon.

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Submitted on behalf of a Collaboration?

No

Participate in poster competition?

No

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