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Non-eikonal contributions to angular correlations

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Calculations at small x are usually made in the eikonal approximation. This is the case in the Color Glass Condensate (CGC) effective theory where the propagation of high energy partons in the intense colour field of a hadron or nucleus, approximated by a shockwave, is described by Wilson lines. In this talk we will review attempts to go beyond the eikonal approximation in the CGC framework, by considering corrections due to the finite length of the target as done in jet quenching studies. We will show the implications in the case of collisions between dilute objects (proton-proton) for single and double inclusive particle production. We will analyse how the non-eikonal corrections give rise to azimuthal asymmetries that vanish with increasing rapidity separation and collision energy. We will finally comment on ongoing attempts to extend these calculations to the dilute-dense situation, thus for proton-nucleus collisions.

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