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# Jet quenching in the glasma stage of heavy-ion collisions

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The early glasma stage of heavy-ion collisions is characterized by strong color fields which deflect jet partons, resulting in sizable jet momentum broadening. An outstanding question is how this momentum broadening leads to jet quenching in the glasma and how important this quenching is for jet phenomenology. In this work we aim to answer these questions by performing the first calculation of medium-induced radiation in the glasma. We use a model for the glasma comprised of independent color domains where each domain has a constant color field that varies event by event. We evaluate the rate of soft-gluon radiation in this model by performing an exact calculation of the path integral for the emissions kernel. We show that the rate is governed by the interplay of synchrotron-like radiation in a single color domain and the destructive interference between different color domains, giving a rate that is highly sensitive to the size of domains. Finally, we discuss how our work can be extended to more realistic glasma profiles and applied to accurate modelling of jets in heavy-ion collisions.

## Category

Theory

## Collaboration

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