



Contribution ID: 413

Type: **Talk**

## Deciphering the role of multiple scatterings and time delays in the in-medium emission process

*Sunday 5 September 2021 15:26 (18 minutes)*

Medium-induced gluon radiation is known to be an important tool to extract the properties of the QGP created in heavy-ion collisions. I will use a recent approach to evaluate the full in-medium gluon emission spectrum, including the resummation of all multiple scatterings, to analyze the validity of the usually employed analytical approximations. More specifically, by using this all-order result I will determine the kinematic regions in which the effects of multiple scatterings are essential and where, in contrast, a single hard scattering is enough to describe the in-medium emission process. Furthermore, I will compute the effects due to the inclusion of a time delay in the production of the medium has on the emission spectrum.

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**Session Classification:** Hot and dense matter physics - QGP and heavy ion collisions

**Track Classification:** Hot and dense matter physics - QGP and heavy ion collisions