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In-medium jet evolution via coherent medium induced radiation and scatterings

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We propose a system of evolution equations that describe in-medium time-evolution of transverse-momentumdependent quark and gluon fragmentation functions.
Furthermore, we solve this system of equations using Monte Carlo methods. We use the obtained solutions to construct observables that allow us to see
different behaviour of quark and gluon initiated final-state radiation, i.e. the average transverse momentum <|k|> and energy contained
in a cone. In particular, the later allows us to conclude that in the gluon-initiated processes there is less energyin a cone, so that the quark jet
is more collimated.

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