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## Latest Developments on Jet Quenching Phenomena

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In this talk, I will review the latest breakthroughs on the description of jet quenching phenomena, name given to the collection of modifications that a hard probe undergoes when travelling through a hot and dense medium, such as the quark-gluon plasma. Among the several probes, jets - collection of collimated particles - are one of the most promising tools. They provide us (i) with a unique tool to test the QCD theory against in-medium modifications of parton shower description - so far extremely successful in proton-proton (vacuum) collisions - (ii) an experimental observable to probe the hot and dense medium that is created in ultra-relativistic heavy-ion collisions. These goals are currently being pursued in both the LHC and RHIC. Nonetheless the success of this program depends crucially on the existence of (i) a full theoretical description of the dynamical effects of the medium on the jets that develop within it and (ii) application of such theory to create sensitive and experimentally robust phenomenological tools for QGP probing. I will address the latest developments that are being pursued in both forefronts.

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