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Probing the QCD Plasma with High Energy Jets

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QCD jets - the collimated spray of hadronic fragments from hard-scattered quarks and gluons - are a ubiquitous feature of high energy collisions. Heavy ion experiments at colliders put jets to a new use, utilizing partonic energy loss and the resulting modification of jet fragmentation as a sensitive, penetrating probe of the QCD plasma. The initial RHIC discovery of jet quenching, via the suppression of high pT hadron yields and di-hadron correlations, has been followed by more detailed observations of its flavor dependence and the response of the medium to partonic energy loss. I will review recent experimental progress in this area, and the quantitative understanding of the QCD plasma that is emerging. I will also discuss new opportunities for such measurements at the LHC and upgraded RHIC.