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## Review of recent results on jet physics in Heavy Ion from LHC

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A cross-over between ordinary nuclear matter and a state of deconfined quarks and gluons, the Quark Gluon Plasma (QGP) is predicted by lattice QCD calculations. Experimentally, ultra-relativistic heavy ion collisions are used to study such a hot and dense medium.

Jets are sensitive to early stage of heavy ion collisions. This property allows to probe the QGP. Their strong interaction with the medium leads to a modification of their structure and to a re-distribution of their energy. Experimentally, this can be seen as a marked reduction of their measured energy in a given reconstruction cone. Their fragmentation pattern is also modified. This phenomenon is called "jet-quenching".

Many experimental observations such as the suppression of back-to-back azimuthal correlations, the suppression of inclusive hadrons - or even jet - spectra or measurements of modified jet fragmentation functions, can all be used in order to learn about in-medium energy loss. Comparing those to theoretical calculations provide hints about the density of the QGP.

Moreover, measurements of jets in proton-proton collisions provide a baseline needed for heavy ion studies . They are also useful to test pQCD.

An overview of recent results on jet physics from LHC experiments (ALICE, CMS and ATLAS) will be presented. We will discuss and compare them to some RHIC results (from STAR and PHENIX).

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