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## Jet Production and Structure in pp, p-Pb and Pb-Pb collisions

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In relativistic heavy-ion collisions a hot, dense medium of strongly interacting quarks and gluons, called the Quark Gluon Plasma (QGP), is formed. Partons that undergo a hard scatter fragment into collimated streams of particles, called jets, are a good probe because they are produced prior to QGP formation and well understood in pp collisions. In a colored medium, the fragmentation of these partons will be modified, and that will be reflected in the shape of the fragmentation pattern and in a reduction in the cross-section. The measurement of the jet production cross-section and jet shapes in different colliding systems: pp, p-Pb, and Pb-Pb, allows for the determination of jets in QCD vacuum, in cold nuclear matter and in a QGP. The first two systems produce reference measurements, which will allow a determination of the parton shower modification due to the hot partonic matter. Cold nuclear matter (CNM) effects could modify the cross-section or fragmentation relative to pp, which would need to be understood in order to interpret the measurement of the modification in hot nuclear matter. In order to fully understand the modification of the parton fragmentation function, it is important that the underlying event background and its fluctuations is well understood for all colliding systems. A measurement of hadron-jet spectra allows us to subtract the large combinatorial background in heavy-ion collisions in a model-independent way, which can allow for a wider range of jet resolution parameters to be used. We will present recent ALICE results on jet production, jet  $k_T$  and hadron+jet correlations in pp, p-Pb and Pb-Pb collisions and discuss their sensitivity to a modified jet fragmentation function. I will compare these measurements to similar measurements at other collisional energies and between LHC experiments, as the medium modification should depend on the system size as well as the path-length.

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