

The Lund string in dense environments

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In hot and dense environments both in heavy ion collisions and high multiplicity proton-proton events, Lund string fragmentation must be modified to take into account effects from the interaction between strings prior to and in the hadronisation. One such modification is colour reconnections, where oppositely directed colour fields may cancel each other. But there is also a possibility for the string fields to interfere constructively. In the latter case the string tension available for creating $q\text{-}\bar{q}$ pairs in each break-up is expected to increase, resulting in a higher probability for producing heavier hadrons. Furthermore, the constructive interference may lead to a repulsion between strings which overlap in space-time, a process we call *shoving*. This can be shown to produce collective effects in proton collisions, such as a long-range near-side ridge.

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