

Exotics from heavy ion collisions

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We investigate the possibilities of identifying exotic hadrons in relativistic heavy ion collisions by studying the production yields of a selected set of exotic hadron candidates. We find that the yields of exotic hadrons are strongly dependent on their structures; we show that the hadron yield is typically an order of magnitude smaller compared to the statistical model prediction when it is a compact multi-quark state, and larger by a factor of two or more for a loosely bound hadronic molecule. We thereby suggest that studying the yields of exotic hadrons in relativistic heavy ion collision offers a promising solution to the problem of identifying hadronic molecular states and exotic hadrons with multiquark components [1, 2].

[1] S. Cho et al. [ExHIC Collaboration], Phys. Rev. Lett. 106, 212001 (2011)

[2] S. Cho et al. [ExHIC Collaboration], Phys. Rev. C 84, 064910 (2011)

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