

1 Probing hadronization with the charge correlator ratio in pp
2 and Ru+Ru/Zr+Zr collisions at $\sqrt{s_{\text{NN}}} = 200$ GeV at STAR

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5 Jet substructure observables can reveal details of the parton fragmentation and hadroniza-
6 tion processes that create a jet. We measure a new substructure observable, the charge
7 correlator ratio (r_c), that characterizes the fraction of string-like fragmentation by distin-
8 guishing the charge signs of leading and subleading charged particles within jets. This
9 can further our understanding of non-perturbative QCD and provide tests for phenomeno-
10 logical hadronization models. Moreover, by measuring r_c with jets created in heavy-ion
11 collisions, we probe for potential modifications of the hadronization process due to the
12 presence of the Quark Gluon Plasma.

13 We present the first fully corrected results of r_c at RHIC, in $\sqrt{s} = 200$ GeV pp colli-
14 sions recorded by the STAR detector, and compare them with Monte Carlo predictions.
15 Additionally, we present progress on the first measurement of r_c in heavy-ion collisions,
16 with $\sqrt{s_{\text{NN}}} = 200$ GeV Ru+Ru and Zr+Zr collisions.