

1 Semi-inclusive hadron+jet measurement in Ru+Ru and Zr+Zr  
2 collisions at  $\sqrt{s_{\text{NN}}} = 200$  GeV in STAR

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5 Jet quenching, modification of the jet properties arising from the jet-  
6 medium interaction in the Quark-Gluon Plasma (QGP), has been observed  
7 in high energy heavy-ion collisions, such as Au+Au and Pb+Pb. Meanwhile,  
8 study of jet quenching signatures in small systems, e.g., proton-nucleus col-  
9 lisions, has generated great interest in the community as the collectivity  
10 phenomenon, resembling that seen in large systems, has been observed in  
11 these collisions, raising the question whether a QGP is formed in the small  
12 system collisions. Jet quenching measurement in relatively smaller collision  
13 systems (Zr+Zr and Ru+Ru) compared to Au+Au collisions at RHIC pro-  
14 vides important insights to the system size and path length dependences of  
15 the parton energy loss. Utilizing the mixed-event technique to remove un-  
16 correlated combinatorial background present in heavy-ion collisions, we will  
17 report the measurement of semi-inclusive charged-particle jets recoiling from  
18 a high transverse-momentum hadron trigger (h+jet) for jet radii of 0.2 and  
19 0.5 using the anti- $k_T$  jet reconstruction algorithm. The trigger hadrons are  
20 selected with transverse momenta between 7 and 25 GeV/c. Results of fully  
21 corrected per-trigger jet yield integrated over a recoil region and its relative  
22 suppression in central to peripheral collisions at mid-rapidity as a function  
23 of transverse momentum will be presented.