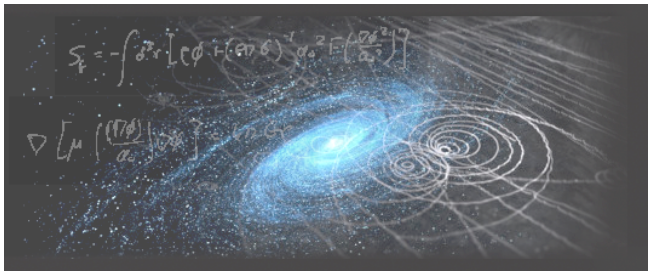

Contribution ID: **58** Type: **not specified**

A study of jet-medium interactions in small systems using a ”brick”-like medium model

Monday, 21 October 2024 16:00 (15 minutes)

The present work addresses the puzzle related to the observation of collective flow in collisions of small systems and the apparently contradictory absence of jet quenching in those cases. This study has been done using the JEWEL event generator with a “brick”-like medium made up of a collection of gluons at a certain temperature and density in a given ellipsoidal region of space. This simplified medium allows us to study the number and characteristics of jet-medium interactions necessary to create signs of jet quenching and collective flow without relying on specific models for medium evolution.

To do that, we generate pairs of jets in the center of the medium and, as they evolve, count the number of jet-medium interactions. What we have found is that the observables do not depend only on the number of interactions but on how much energy and momentum are transferred at each interactions. However, our results so far indicate that more interactions (and thus more energy/momentum) are required to create a visible R_{AA} signal than for a v_2 signal. This in turn could explain how small systems can show signs of collectivity but not jet quenching.

Summary

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