Relativistic Heavy-Ion Collisions and Quark-Gluon Plasma — An Overview and Recent Advances

Rajeev S. Bhalerao 1*

¹ Department of Physics, Indian Institute of Science Education and Research (IISER) Pune, Pune - 411008, INDIA

Abstract

I will present an overview of the field of ultra-relativistic heavy-ion collisions and quark-gluon plasma, where the nucleus is subjected to the extremes of temperature and pressure. I will describe the most important observables and their status in the cur-*Electronic address: rajeev.bhalerao@iiserpune. ac.in rent experiments at the Large Hadron Collider, CERN. I will highlight the important role the relativistic dissipative fluid dynamics is playing in describing the flow of the matter formed in these collisions. Finally, I will mention the important open questions in this field.