



Contribution ID: 371

Type: Poster

Effect of Magnetic Field on 1P states of the Heavy Quarkonia

Tuesday 13 December 2022 14:00 (1 hour)

We determine the properties of 1P state of the charmonia and bottomonia in the presence of strong magnetic field. Here we have employed the medium modified form of the potential which has both coulombic as well as string part. This enables us to study the properties of the heavy quarkonia even above the critical temperatures. The magnetic field effect has been incorporated through the quasi-particle Debye mass. It has been found that the binding energies of the χ_c and χ_b are strongly affected by the magnetic field. The dissociation temperatures of the χ_c and χ_b are also reduced with the increasing values of the magnetic field. Although the χ_b state dissociates at higher values of the temperature and magnetic field because of the larger mass and hence the large binding energy. We have also studied the effect of magnetic field on mass spectra of the 1P states of heavy quarkonia.

Session

Heavy Ions and QCD

Primary author: Mr LAL, Manohar (Central University of Jharkhand, Ranchi, India, 835222)

Co-authors: Mr SOLANKI, Siddhartha (Central University of Jharkhand, Ranchi, India, 835222); Mr SHARMA, Rishabh (Central University of Jharkhand, Ranchi, India, 835222); Dr AGOTIYA, Vineet Kumar (Central University of Jharkhand, Ranchi, India, 835222)

Presenter: Mr LAL, Manohar (Central University of Jharkhand, Ranchi, India, 835222)

Session Classification: Poster - 2