

Heavy quark diffusion in presence of magnetic field

Wednesday, 16 November 2022 17:30 (20)

In presence of magnetic field the transport coefficients of heavy quarks are seen to have a multi-component structure due to which the spatial diffusion splits into longitudinal and transverse components relative to the direction of magnetic field. Owing to the Einstein's relation, the spatial diffusion is expressed as a ratio of electrical conductivity and susceptibility. The anisotropic property of the spatial diffusion comes in due to the multi-component structure of the electrical conductivity tensor in presence of magnetic field. The results are studied as a function of temperature and magnetic field for D mesons and charm quarks for their relevant temperature ranges.

Primary author(s) : Mr SATAPATHY, Sarthak (Dinabandhu Mahavidyalaya, Bongaon, North Paraganas - 743235, West Bengal, India); Mr DE, Sudipan (Dinabandhu Mahavidyalaya, Bongaon, North Paraganas - 743235, West Bengal, India); Mr GHOSH, Sabyasachi (Indian Institute of Technology Bhilai, GEC Campus, Sejbahar, Raipur 492015, Chhattisgarh, India); Mr DEY, Jayanta (Indian Institute of Technology Indore, Khandwa Road, Simrol, Indore 453552, INDIA); Mr JENA, Chitrasen (Indian Institute of Science Education Science and Research Tirupati, Rami Reddy Nagar, Mangalam, Tirupati, Andhra Pradesh 517507)

Presenter(s) : Mr SATAPATHY, Sarthak (Dinabandhu Mahavidyalaya, Bongaon, North Paraganas - 743235, West Bengal, India)

Session Classification : Day 2: Session 4

Track Classification : Heavy flavor and Quarkonium production