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## Medium Modifications of Magnetic Moments and Transition Properties of Low-Lying $J^P=1/2^-$ , $3/2^- \Lambda$ Resonances

This study investigates the medium modifications of the magnetic moments and transition properties of lowlying spin-parity  $J^P = 1/2^-$  and  $3/2^- \Lambda$  resonances, such as  $\Lambda(1405)$  with  $1/2^-$  and  $\Lambda(1520)$  with  $3/2^-$ , in hot and dense hadronic matter using the chiral SU(3) quark mean field model. In this model, quarks confined inside the baryons are modified

through the exchange of scalar fields  $\sigma$ ,  $\zeta$ , and  $\delta$  and vector fields  $\omega$ ,  $\rho$ , and  $\phi$  which results in shift in quark masses and interaction energies. By analyzing these field-induced modifications, the model enables us to calculate the effective masses and magnetic moments of the quarks and to estimate the impact on the magnetic moments and transition properties of  $\Lambda$  resonances in high density environments.

## **Field of contribution**

Phenomenology

Author: ., CHESHTA

**Co-authors:** Dr KUMAR, Arvind (Department of Physics, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar - 144008, Punjab, India); Dr DAHIYA, Harleen (Department of Physics, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar - 144008, Punjab, India); Dr DUTT, Suneel (Department of Physics, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar - 144008, Punjab, India); Dr DUTT, Suneel (Department of Physics, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar - 144008, Punjab, India); Dr DUTT, Suneel (Department of Physics, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar - 144008, Punjab, India); Dr DUTT, Suneel (Department of Physics, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar - 144008, Punjab, India)

Presenter: ., CHESHTA

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