

Mass spectrum of ground state heavy-light mesons in relativistic independent quark model

The confining strength or model parameters and constituent quark masses are determined after fitting the ground state masses with experimental data of respective mesons. We analyzed these from the hyperfine splitting of heavy-light and heavy flavored ground state mesons in the framework of relativistic independent quark (RIQ) model with one gluon exchange and centre of mass correction. For the s-wave mesons with spin parity $J^P = 0^-$ and 1^- , the masses obtained are in accordance with the experimental physical masses. The results will serve as good complementary tools in further study of dynamics of the meson and will behave as a foundation for the higher excited and exotic states of hadron.

Author: NAYAK, Lopamudra (NISER Bhubaneswar)