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B and D mesons in nuclear matter via QCD Sum Rules

We calculate the shifts in the masses and decay constants of B and D mesons in nuclear medium in the frame work of QCD sum rules. We write the shifts in the masses and decay constants in terms of B-N and D-N scattering lengths and an extra phenomenological parameter entered to calculations. Computing an approciate forward scattering correlation function, we derive the QCD sum rules for the B-N and D-N scattering lengths and the extra phenomenological parameter in terms of various operators in nuclear medium. We numerically find the shifts in the masses and decay constants of the mesons under consideration and compare the obtained results with the existing predictions in the literature.

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