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D and D* meson mixing in magnetic field from QCD sum rules

KEI SUZUKI, Tokyo Institute of Technology, PHILIPP GUBLER, RIKEN, KOICHI HATTORI, RIKEN BNL, SU HOUNG LEE, Yonsei University, SHO OZAKI, KEK — Quantum chromodynamics (QCD) in strong magnetic field is one of the most exciting topic in hadron physics. Especially, one can expect that hadrons are modified by strong magnetic fields such as that produced in ultrarelativistic heavy-ion collisions. In this study, we investigate the properties of the heavy-light (D) meson in magnetic field. QCD sum rule (QCDSR) is a method to investigate the properties of hadrons from QCD including non-perturbative effect. Recently, applications of QCDSR to systems in external magnetic field is tried by some authors. In this presentation, we report the result of the D meson mass shift in magnetic field from QCDSR and discuss mixing of the vector and pseudoscalar mesons by magnetic effect.

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