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Chiral Structure of D Mesons in the Vector Manifestation

MASAYASU HARADA, Nagoya University

Recently, BaBar, CLEO and Belle discovered the excited D mesons with $J^P = 0^+$ and 1^+ . There are several proposals of their constituents for explaining the mass splitting between the $D(0^+, 1^+)$ mesons and the well-known $D(0^-, 1^-)$ mesons which is much smaller than the one calculated in the constituent quark model: The 4-quark picture, the D - K molecule picture, and so on. In this talk, I will introduce our work in which we consider the $D(0^+, 1^+)$ mesons as the chiral partner to the $D(0^-, 1^-)$ in the 2-quark picture. I will first introduce how to include the $D(0^+, 1^+)$ mesons and the $D(0^-, 1^-)$ mesons together with the pseudoscalar and vector mesons made from a light quark and a light anti-quark incorporating the heavy quark symmetry and the chiral symmetry. Then, starting with a hidden local symmetry Lagrangian at the vector manifestation fixed point and matching the bare theory to QCD, I will show that the mass splitting is well reproduced. I will also present our predictions on the hadronic decay processes of the excited $D(0^+, 1^+)$ mesons.