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Lattice calculaiton of hadron spectrum including isospin breaking effect

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We develop a new method to calculate hadron spectrum including isospin breaking effect on lattice, where we treat u and d quark mass splitting and QED effect perturbatively. In this method we define a new value related to a certain hadron mass. This value is irrelevant to quark mass to the first order so that the renormalization of quark mass is no longer needed. We apply this method on a real lattice calculation and give mass splittings of several hadrons.

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