HAW14-2014-000705

Abstract for an Invited Paper
for the HAW14 Meeting of
the American Physical Society

Hadron interactions and exotic hadrons from lattice QCD

YOICHI IKEDA, RIKEN, Nishina Center

One of the interesting subjects in hadron physics is to look for the multiquark configurations. One of candidates is the H-dibaryon (udsuds), and the possibility of the bound H-dibaryon has been recently studied from lattice QCD. We also extend the HAL QCD method to define potentials on the lattice between baryons to meson-meson systems including charm quarks to search for the bound tetraquark Tcc (ud $\bar{c}$ $\bar{c}$) and Tcs (ud $\bar{c}$ $\bar{s}$). In the presentation, after reviewing the HAL QCD method, we report the results on the H-dibaryon, the tetraquark Tcc (ud $\bar{c}$ $\bar{c}$) and Tcs (ud $\bar{c}$ $\bar{s}$), where we have employed the relativistic heavy quark action to treat the charm quark dynamics with pion masses, m_π = 410, 570, 700 MeV.