

XVth Quark Confinement and the Hadron Spectrum



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Internal structure of T_{cc} and $X(3872)$ by using compositeness

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In recent experiments in the heavy quark sector, various candidates of exotic hadrons have been observed. Most of exotic hadrons are discovered near the threshold of two-body scattering as represented by T_{cc} and $X(3872)$ [1,2]. Such near-threshold states are empirically considered as hadronic molecules [3]. To focus on the molecular structure, it is useful to calculate the compositeness, the fraction of the hadronic molecule component in the wavefunction [4]. By using the compositeness, we demonstrate that near-threshold bound states are usually molecular dominant [5] which is consistent with the consequence of the low-energy universality [6]. When we consider the decay and coupled-channels effects which are important for the exotic hadrons, the compositeness is found to be suppressed by these effects [5]. As an application, we discuss the internal structure of T_{cc} and $X(3872)$ by using a new interpretation of the complex compositeness [7].

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Primary author: KINUGAWA, Tomona (Tokyo Metropolitan University)

Co-author: HYODO, Tetsuo (Tokyo Metropolitan University)

Presenter: KINUGAWA, Tomona (Tokyo Metropolitan University)

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