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Four- and five-body calculation of resonance and scattering states of exotic hadoron systems HIYAMA EMIKO, Nara Women's University, KAMIMURA MASAYASU, Kyushu University, HOSAKA ATSUSHI, TOKI HIROSHI, Research Center for Nuclear Physics(RCNP), Osaka University, YAHIRO MASANOBU, Kyushu University — Scattering problem of uudd$\bar{s}$ system, in the standard non- relativistic quark model, is for the first time, by treating the large five-body modelspace including the NK scattering channel accurately with the Gaussian expansion method and Kohn- type coupled-channel variational method. The NK scattering phase shift calculated shows no resonance corresponding to the reported pentaquark $\Theta^+(1540)$ MeV. The phase shift does show two resonance at energies much higher than the Θ^+ (1540) MeV energy region; one is a broad $1/2^+$ resonance with width of $\Gamma \approx 110$ MeV located at ≈ 535 MeV above the NK threshold, and the other is a sharp $1/2^-$ resonance with $\Gamma = 0.24$ MeV at 539 MeV. We also will report the structure of X(3872)which has been reproted by the Belle gourp.

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