

# A dynamic study on 5-quark systems in chiral quark model.

## Summary

The pentaquark  $P_c^+(4380)$  and  $P_c^+(4450)$  have been just observed in the decay of  $\Lambda_b^0, \Lambda_b^0 \rightarrow J/\Psi K^- P$  by the LHCb collaboration in 2015. The interesting in 5-quark systems is revived again just followed the report of  $\Theta^+$  in 2003. Based on these facts, a dynamic study on 5-quark systems is performed in chiral quark model with the help of Gaussian expansion method(GEM). A review on the non-strangeness part of 5-quark systems, along with the  $sssu\bar{u}, sssd\bar{d}$  systems with all possible quantum(I,J) in negative parity are presented. Five  $\Omega_c^0$  excited states( $\Omega_c(3000)^0, \Omega_c(3050)^0, \Omega_c(3066)^0, \Omega_c(3090)^0, \Omega_c(3119)^0$ ) discovered also by the LHCb experiment, recently, is investigated in the framework of  $sscu\bar{u}, sscd\bar{d}$ .

**Primary author:** Mr YANG, Gang (Nanjing Normal University)

**Co-author:** Prof. 平, 加伦 (Nanjing Normal University)

**Presenter:** Mr YANG, Gang (Nanjing Normal University)