

# Current theoretical topics on $K^-pp$ quasi-bound state

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## Collaboration

## Abstract content

The  $\Lambda^-(1405)$  plays an essential role in forming anti-kaonic nuclear clusters, the simplest one of which is  $K^-pp = (K^-p)p = \Lambda^-p$ . In relation to this clustering structure we have examined the reaction processes,  ${}^3\text{He}(K^-, n)K^-pp$  and  $D(\pi^+, K^+)K^-pp$ , of the recent E15 and E27 J-PARC experiments. The  $\Lambda^*-p$  structure interacting with "super-strong force" due to  $\bar{K}$  migration between two nucleons provides a possible explanation of  $K^-pp$ . The structure is extended to  $K^-K^-pp$  system, which is of more fundamental importance in deeply bound anti-kaonic nuclei.

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