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## Z<sub>b</sub> tetraquark channel and $B\bar{B}^*$ interaction

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Belle experiment discovered two tetraquark candidates  $Z_b(10610)$  and  $Z_b(10650)$  with flavor structure  $\bar{b}b\bar{d}u$  in 2011. We present the lattice study of the  $\bar{b}b\bar{d}u$  system in the approximation of static  $b$  quarks. The ground and the excited eigenstates are extracted as a function of separation  $r$  between  $b$  and  $\bar{b}$ . The lower eigenstates at small  $r$  are related to a bottomonium and a pion, where the pion is at rest or in flight. Some of the higher eigenstates are related to the  $\bar{B}B^*$  system. We extract the interaction of the  $\bar{B}B^*$  system and present results concerning possible  $Z_b$  resonances or bound states in this channel.

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