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# $\bar{b}b$ -bud tetraquark resonances in the Born-Oppenheimer approximation using lattice QCD potentials

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We study tetraquark resonances for a pair of static quarks  $\bar{b}b$  in presence of two light quarks  $ud$  based on lattice QCD potentials. The system is treated in the Born-Oppenheimer approximation and we use the emergent wave method. We focus on the isospin  $I = 0$  channel but take different angular momenta  $l$  of the heavy quarks  $\bar{b}b$  into account. Further calculations have already predicted a bound state for the  $l = 0$  case with quantum numbers  $I(J^P) = 0(1^+)$ . Performing computations for several angular momenta, we extract the phase shifts and search for T and S matrix poles in the second Riemann sheet. For angular momentum  $l = 1$ , we predict a tetraquark resonance with quantum numbers  $I(J^P) = 0(1^-)$ , resonance mass  $m = 10576_{-4}^{+4}$  MeV and decay width  $\Gamma = 112_{-103}^{+90}$  MeV, which decays into two  $B$  mesons.

**Primary authors:** PETERS, Antje; WAGNER, Marc (Goethe University Frankfurt); CARDOSO, Marco (Instituto Superior Técnico); PFLAUMER, Martin (Goethe Universität Frankfurt); BICUDO, Pedro (IST Lisboa)

**Presenter:** PFLAUMER, Martin (Goethe Universität Frankfurt)

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