Title:	Search for light tetraquark states in Ï'(1S) and Ï'(2S) decays
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Abstract:	We search for the JPC=0−− and 1+− light tetraquark states with masses up to 2.46~GeV/c2 in Υ(1S) and Υ(2S) decays with data samples of (102±2) million and (158±4) million events, respectively, collected with the Belle detector. No significant signals are observed in any of the studied production modes, and 90\% credibility level (C.L.) upper limits on their branching fractions in Υ(1S) and Υ(2S) decays are obtained. The inclusive branching fractions of the Υ(1S) and Υ(2S) decays into final states with f1(1285) are measured to be □(Υ(1S)→f1(1285)+anything)=(46±28(stat.)±13(syst.))×10−4 and □(Υ(2S)→f1(1285)+anything)=(22±15(stat.)±6.3(syst.))×10−4. The measured χb2→J/ψ+anything branching fraction is measured to be (1.50±0.34(stat.)±0.22(syst.))×10−3, and 90\% C.L. upper limits for the χb0,b1→J/ψ+anything branching fractions are found to be 2.3×10−3 and 1.1×10−3, respectively. For □(χb1→ω+anything), the branching fraction is measured to be (4.9±1.3(stat.)±0.6(syst.))×10−2. %(<3.68×10−2 at 90\% C.L.). All results reported here are the first measurements for these modes.
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