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Triply heavy tetraquark spectroscopy

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Masses of the triply heavy tetraquarks of all flavor compositions are calculated within the relativistic quark model, based on the quasipotential approach and QCD. Tetraquark is treated as a bound state of the nonobservable non-pointlike diquark and antidiquark. The relativistic quasipotential equation takes into account all relativistic corrections (both spin-dependent and spin-independent) and the internal structure of the diquarks via the insertion of calculated diquark-gluon form-factors. The calculated masses of tetraquarks are compared with the strong fall-apart decay thresholds into pair of heavy and heavy-light mesons. The states that lie slightly above or under such thresholds and thus could be observed as narrow resonances in other decay modes are determined.

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