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Tetraquark properties at large N_c

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The question of the existence of compact tetraquarks is studied in the large-N_c limit of QCD. Considering the fully exotic case, corresponding to four different quark flavors, it is shown that consistency conditions of correlation functions of color-singlet bilinear currents require the existence of two different tetraquarks, each decaying preferentially into a single two-meson channel. On the other hand, the diquark scheme, which provides the mechanism for producing compact tetraquarks, gives rise to one tetraquark bound state. This contradiction suggests that large-N_c QCD does not support the existence of compact flavor-exotic tetraquarks. Based on Phys. Rev. D 98 (2018) 094011.

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