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## Dense matter in a constituent quark model

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In this work, we investigate the color-spin interaction of a quark, a diquark and a baryon with their surrounding baryons and/or quark matter. This is accomplished by classifying all possible flavor and spin states of the resulting multiquark configuration in both the flavor  $SU(2)$  and  $SU(3)$  symmetric cases. We also discuss the three-body confinement potential and show that this does not contribute to the outcome. Furthermore, we find that a quark becomes more stable than a baryon when the number of surrounding baryons is three or more. Finally, when we consider the internal color-spin factor of a probe, our results show that the effects of the color-spin interaction of a multiquark configuration is consistent with the so-called diquarkionic configuration.

### Category

Theory

### Collaboration (if applicable)

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