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Baryonic states in supersymmetric Yang-Mills theory

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In $\mathcal{N} = 1$ supersymmetric Yang-Mills theory the superpartner of the gluon is the gluino, which is a spin 1/2 Majorana particle in the adjoint representation of the gauge group. Combining three gluinos, it is possible to form colour neutral bound states, analogous to baryons in QCD. The correlation functions of the corresponding baryonic operators contain a contribution represented by a "sunset diagram", and in addition, unlike in QCD, another contribution represented by a "spectacle diagram". We present first results from an implementation and calculation of these objects, obtained from numerical simulations of supersymmetric Yang-Mills theory.

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