

A MYSTERY OF UHECRON - ANY CONNECTION TO UHECR?

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The interaction properties of hadronic bound states of a light supersymmetric particle, gluino, are studied in the framework of the QGSJET Monte Carlo model. All important contributions to the interaction mechanism are taken into account. In particular, it is found that direct hard interaction of the valence gluino plays an important role in the process. The formalism is applied to the investigation of the properties of extensive air showers, initiated by such particles. Comparing the results with existing cosmic ray data, we were able to set the new limit on the gluino mass, $M_{\tilde{g}} < 5$ GeV, for gluino-hadrons to be the carriers of ultra high energy cosmic ray signal.