

Abstract Submitted
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Magnetic Moments of Negative-Parity Baryons from Lattice QCD¹ FRANK LEE, George Washington University, ARYAN KHOJANDI, Thomas Jefferson High School for Science and Technology, ANDREI ALEXANDRU, George Washington University — Using the background field method, we compute the magnetic moments for the entire family of negative-parity octet and decuplet baryons. They are extracted from small mass shifts caused by external magnetic fields introduced on the lattice. The calculations are done on quenched configurations using standard Wilson actions, six pion masses down to about 500 MeV, and four field strengths. High statistics (we use 1500 configurations) are needed to isolate the signal for these particles. For comparison purposes, we also extract the magnetic moments for the positive-parity counterparts.

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