

The symmetry of the Dirac equation in a magnetic field

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We consider the symmetry of the Dirac equation in an external stationary and homogeneous magnetic field using the method of orbits. The symmetry algebra of the Dirac equation is shown to be the central extension of the symmetry algebra of the free Dirac equation. Using the noncommutative integration method we find new exact solutions of the Dirac equation in the magnetic field.