

## **The Dirac equation in Schwarzschild mass coupled to a Stationary Electromagnetic Field**

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We study the Dirac equation in a spacetime that represents the nonlinear superposition of the Schwarzschild solution to an external, stationary electromagnetic Bertotti-Robinson solution. We separate the Dirac equation into radial and angular equations using Newman--Penrose formalism. We obtain exact analytical solutions of the angular equations. We manage to obtain the radial wave equations with effective potentials. Finally, we study the potentials by plotting them as a function of radial distance and examine the effect of the twisting parameter and the frequencies on the potentials.'