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The relativistic hydrogen atom with magnetic monopole on the nucleus

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The addition of a magnetic monopole to the nucleus of hydrogen atom was first considered by Malkus in 1951. More recently Lynden-Bell and Nouri-Zonoz in 1998, have determined the energy levels and spectra of the Schrodinger hydrogen atom with magnetic monopole on the nucleus. They have also found the energy levels of the Dirac hydrogen atom with magnetic monopole on the nucleus. The work of Lynden-Bell and Nouri-Zonoz is extended by finding the angular part of the solution of Pauli equation for the hydrogen atom with monopole on the nucleus. The angular part of the solution of the Dirac hydrogen atom with magnetic monopole is then constructed from the generalized spherical spinors from which complete solutions of the relativistic hydrogen atom with magnetic monopole are then obtained.

Biography

Alison M Brennan is a PhD student in the Astrophysics group in the Department of Physics at the University of Cambridge. She had a previous career as a Software Engineer in the electronics industry.

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