Spectral analysis of Dirac operators and scattering theory

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We propose to discuss spectral properties, which are mainly important for scattering theory, of Dirac operators describing particles in external electromagnetic fields. Problems are treated for the general case, in an abstract framework, using direct methods of perturbation theory. Results concerning the existence and completeness of the wave operators will be also presented.

[1] P.A. Cojuhari, On the finiteness of the discrete spectrum of the Dirac operator. Rep. Math. Phys. 57, no. 3 (2006), 333341.

[2] P.A. Cojuhari, Finiteness of eigenvalues of the perturbed Dirac operator. Operator Theory, Analysis and Mathematical Physics, 17, Oper. Theory Adv. Appl., 174, Birkhuser, Basel, 2007.

[3] P.A.Cojuhari, and S. Corsac, On the absence of singular continuous spectrum for some self-adjoint operators, Bull. Acad. Sc. Repub. Mold. Math., no. 2(2000), 1530.