

Abstract

In this talk, we will discuss the asymptotic behavior of the solution to the Dirac equation in Minkowski space-time via a vector-field method. Based on the decay mechanism of the solution, we will give a new insight to investigate the spinor null forms. Then a small-data-global-existence result of some typical nonlinear Dirac model follows. This result also answers an open question raised by N. Tzvetkov concerning the Lorentz-invariant nonlinear Dirac equations.