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Path Integral Treatment for Spinless Relativistic Equation in the Two Component Theory

M. MERAD, T. BOUDJEDAA and L. CHETOUANI  
Département de Physique, Faculté des Sciences,  
Université Mentouri, 25000 Constantine-ALGERIE

 [Keywords](#)  
 [Authors](#)



[phys@tubitak.gov.tr](mailto:phys@tubitak.gov.tr)

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**Abstract:** In this paper we have set up a path integral formalism for Feshbach-Villars equation by using the fermionic Schwinger model for Pauli matrices which describe an isocharge symmetry. This choice is made in analogy with spin model and the coherent state representation is then used. We have also given a general method of treating the problem of vanishing scalar potential by reducing it to non-relativistic case and then, via Foldy-Wouthuysen canonical transformation, an explicit solution is constructed. The free case and constant magnetic field interaction are explicitly exposed. In each cases the propagators are evaluated and the energy spectrum and the corresponding wave functions are deduced.

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