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**Relativistic Treatment of Spin-zero Particles Subjected to the Shifted**  
**Tietz-Wei Potential Model**  
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Abstract  
The approximate solutions of the Klein-Gordon equation with the shifted Tietz-Wei potential  
function are thoroughly studied for Klein-Gordon equation with both 2*V* and *V* potentials by usinga suitable approximation scheme for the centrifugal term in the framework of the supersymmetric approach. The non-relativistic limits in both cases are obtained, and the numerical results are computed. We have equally investigated the Fisher information on the shifted Tietz-Wei potential function in the case of the non-relativistic limit of the Klein-Gordon equation with potential *V* because this is only possible in the non-relativistic regime. The Fisher information is observed to be inversely proportional to both *Ch* and *bh*, where *Ch* is the optimization parameter and *bh* = *β*(1 *− Ch*), with *β* being the Morse constant.

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