Seminar

Supersymmetry in Quantum Mechanics

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I will give an elementary introduction to the subject of Supersymmetry in Quantum Mechanics which can be understood and appreciated by anyone who has taken first course on Quantum Mechanics. Given an exactly solvable potential in quantum mechanics with n bound states, I will show how one can construct new potentials with n-1, n-2,....0 bound states. Besides I will also show how one can construct one continuous parameter family of potentials with the same energy eigenvalues and the reflection and transmission coefficient as the exactly solvable potential. We further extend the operator method of solving one dimensional harmonic oscillator to a class of potentials which include almost all known exactly solvable potentials. If time permits, I will also introduce supersymmetry inspired WKB approximation which does better than the usual WKB approximation in many respects.

Tuesday, Feb 27th 2024

16:00 Hrs (Tea / Coffee 15:45 Hrs)

Seminar Hall, TIFR-H