

SEMINARIO

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Optical potentials in quantum mechanics and optical media based on gain- and loss-materials

Abstract: A very particular quantum potential is reviewed: the complex version of the square well potential. Some interesting features of this system are elucidated, in contrast to the real case. Additionally, a method to construct complex-valued potentials with real spectrum is sketched, by means of solutions to Ermakov equation and, a formalism to establish the bi-orthogonality between the eigenstates of the corresponding non-Hermitian operators is presented. At every step, the analogue optical system is referred to.

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