

## Airy Wave Packet for a Particle in a Time-Dependant Linear Potential

**Authors :** M. Berrehail, F. Benamira

**Abstract :** We study the quantum motion of a particle in the presence of a time- dependent linear potential using an operator invariant that is quadratic in  $p$  and linear in  $q$  within the framework of the Lewis-Riesenfeld invariant, The special invariant operator proposed in this work is demonstrated to be an Hermitian operator which has an Airy wave packet as its Eigenfunction

**Keywords :** airy wave packet, invariant, time-dependent linear potential, unitary transformation

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