

N-Galilean conformal algebras and free higher derivatives Lagrangians

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Abstract

It is shown that the N-Galilean conformal algebra, with N-odd, is the maximal symmetry algebra of the free Lagrangian involving $(N+1)/2$ -th order time derivative. The $N = 1$ member of conformal family is the famous Schroedinger algebra – maximal symmetry algebra of free Schroedinger equation and, also, the free classical Lagrangian.