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12. Probability and Statistics

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Symmetry of nonlinear equations of relativistical quantum mechanics

We have studied symmetry properties of nonlinear equations for complex field. Nonlinear representations of the conformal algebra and the extended Poincare algebra are presented. Wide classes of the conformally invariant wave equations are constructed. Conditional symmetry of the nonlinear wave equation is studied. Part of these results is joint work with P. Basarab-Horwath and W. Fushchych.

Reference: P. Basarab-Horwath, W. Fushchych, O. Roman, On a new conformal symmetry for a complex scalar field, *Phys. Lett. A.* **226** (1997), 150–154.