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Abstracts of Short Communications and Posters

Section:

11. Mathematical Physics

1991 MS Classification: 35, 39, 53, 81
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Conserved Currents for Linear Equations of Motion in Discrete and Non-commutative Models
The general , linear equations with constant coefficients on discrete and quantum spaces are considered and the explicit formulae for their conserved currents are given. This class of equations includes Klein-Gordon, Dirac and wave equations. As an example we construct the symmetry operators for Klein-Gordon equations and obtain conserved currents connected with symmetries of these equations. In the discrete case we use the derived currents in construction of integrals of motion.
Reference: M. Klimek, The Conservation Laws and Integrals of Motion for a Certain Class of Equations in Discrete Models, *J. Phys. A: Math. & Gen.* **29** (1996), 1747-1758 M. Klimek, Conservation Laws for Linear Equations on Quantum Minkowski Spaces, *Commun. Math. Phys.* **192** (1998), 29-45