Conservation laws and nonexistence of local Hamiltonian structures for generalized Infeld–Rowlands equation

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For a certain natural generalization of the Infeld–Rowlands equation that arises inter alia in the study of solution stability for the Ginzburg–Landau equation, notable for its manifold applications in physics, we prove nonexistence of nontrivial local Hamiltonian structures and nontrivial local symplectic structures of any order, exhaustively characterize all cases when the equation in question admits nontrivial local conservation laws of any order and give complete lists of these conservation laws up to a natural equivalence. Note that the methods of establishing the above results can be readily applied to many other PDEs. For further details please see the article

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