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Symmetry analysis of nonlinear wave equations in $n > 1$ dimensions

Symmetry analysis has several important uses in the study of nonlinear evolution equations, particularly for

(1) identifying critical dimensions,

(2) deriving conserved norms and conservation identities, and

(3) finding explicit solutions with invariance properties.

Applications to semilinear wave equations, Schrodinger equations, and generalized Korteveg–de Vries equations in $n > 1$ dimensions will be presented.