1125-35-548   **Barbara Abraham-Shrauner*** (`bas@wustl.edu`), Electrical and Systems Engineering, Washington University, St. Louis, MO 63130. *Analytic Lie symmetric solutions of nonlinear partial differential equations.* Preliminary report.

Nonlinear partial differential equations with independent variables invariant under translations are analyzed for exact analytic solutions. Conditions for certain traveling wave solutions of nonlinear partial differential equations (NLPDEs) include the power index and net number of derivatives of each term. Hyperbolic tanh and sech functions and Jacobian elliptic functions sn, cn and dn are considered. Requirements for the G'/G method are discussed. Examples include the generalized KdV equations and Zakharov equations. (Received September 06, 2016)

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