

Exact travelling wave solutions for a class of nonlinear partial differential equations

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The extended mapping method is developed to obtain the exact solutions to a nonlinear ordinary differential equation. As a simple application, a class of nonlinear partial differential equations such as nonlinear Klein-Gordon equation, a nonlinear evolution equation $u_{tt} + \alpha u_{xx} + \beta u + \gamma u^3 = 0$, and a new coupled equation $u_{xt} - 2uv = 0, v_t + 2uu_x = 0$ are studied and multiple travelling wave solutions are obtained. Many new results are presented.