Different-Periodic Travelling Wave Solutions for Nonlinear Equations

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Abstract: Using Jacobi elliptic function linear superposition approach for the (1+1)-dimensional Caudrey-Dodd-Gibbon-Sawada-Kotera (CDGSK) equation and the (2+1)-dimensional Nizhnik-Novikov-Veselov (NNV) equation, many new periodic travelling wave solutions with different periods and velocities are obtained based on the known periodic solutions. This procedure is crucially dependent on a sequence of cyclic identities involving Jacobi elliptic functions $sn(\xi,m)$, $cn(\xi,m)$, and $dn(\xi,m)$.

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