

Lax representation and solutions of the two-component complex modified Korteweg-de Vries and Maxwell-Bloch system of equations

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In this work, we consider 2+1-dimensional system of equations and namely the two-component complex modified Korteweg-de Vries and Maxwell-Bloch (cmKdVMB) system of equations. Also, Lax representation of this equation is presented. We construct Darboux transformation (DT) of the two-component cmKdVMB system of equations. Determinant representation of one-fold, two-fold and n-fold DT of this system of equations are given. We receive exact solutions of the two-component cmKdVMB system of equations by DT from trivial "seed" solutions.