

Symmetries of the Darboux equation

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The Darboux equation (1882) was a generalization of both Picard's and Hermite's equations. All these equations are generalizations of the well-known Lamé equation (1837). The equation was rediscovered by Treibich and Verdier in the 1980s concerning it having finite-gap property in an algebraic geometric characterization. The equation is a (doubly periodic) torus version of the Heun equation which lives on the Riemann sphere. In this talk, we will clarify the symmetries of the Darboux equation in both the Weierstrass form and Jacobian form when ordered bases of the underlying torus change.