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On Some Algebraic Properties of Semi-Discrete Hyperbolic Type Equations

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Abstract: Nonlinear semi-discrete equations of the form $t_x(n+1) = f(t(n), t(n+1), t_x(n))$ are studied. An adequate algebraic formulation of the Darboux integrability is discussed and an attempt to adopt this notion to the classification of Darboux integrable chains has been undertaken.

Key Words: Darboux integrability; Characteristic Lie Algebra; First Integrals; Integrability test

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