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Discrete Hamiltonian structure of Schlesinger transformations.

The purpose of this talk is to describe the discrete Hamiltonian structure of the Schlesinger transformations. For a linear differential equation with only regular singularities, the Schlesinger Transformation is an isomonodromic transformation of the equations such that the eigenvalues of the coefficient matrices are changed by integers. It is known that most of the integrable ordinary difference equations of Painlevé type except q or elliptic difference ones can be obtained as Schlesinger transformations. Our discrete Lagrangian and Hamiltonian are nothing but the generating functions of canonical transformations. (Received September 22, 2011)