

Virasoro type algebraic structure and the analyticity of the constrained discrete KP hierarchy

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Abstract:

In this talk, the algebraic structure and the analyticity of the constrained discrete KP hierarchy will be analyzed. We construct the additional symmetries of one-component constrained discrete KP (cdKP) hierarchy, and then prove that the algebraic structure of the symmetry flows is the positive half of Virasoro algebra. The gauge transformation of the constrained discrete KP hierarchy is constructed explicitly by the suitable choice of the generating functions. Under the m -step successive gauge transformation T_m , we give the transformed (adjoint) eigenfunctions and the τ -function of the transformed Lax operator of the cdKP hierarchy. We also analyze the Wronskian solution of the eigenfunction of the cdKP hierarchy.

References:

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