



Mathematical Physics

Poisson Yang-Baxter maps with binomial Lax matrices

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A construction of multidimensional parametric Yang-Baxter maps is presented. The corresponding Lax matrices are the symplectic leaves of first degree matrix polynomials equipped with the Sklyanin bracket. These maps are symplectic with respect to the reduced symplectic structure on these leaves and provide examples of integrable mappings. An interesting family of quadrirational symplectic YB maps on $\mathbb{C}^4 \times \mathbb{C}^4$ with 3×3 Lax matrices is also presented.

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