

Non-commutative Yang–Baxter maps

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A family of geometrically relevant solutions of the functional Yang–Baxter equation involving arbitrary number of totally non-commuting variables will be presented. Its commutative counterpart is given by maps studied in [4,6] and related to geometric crystals. The non-commutative maps are obtained from the non-commutative Hirota system [5] after performing periodic reduction [1], and their geometric interpretation is provided by Desargues configuration as described in [3]. The family of Yang–Baxter maps generalizes the maps obtained recently in [2] upon certain additional commutativity assumption.

References

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