

Elliptic solutions of the Yang–Baxter equation

Dmitry Chicherin

LAPTh
9, chemin de Bellevue, Annecy
France
chicherin@lapth.cnrs.fr

We consider finite-dimensional reductions of the most general known solution of the Yang–Baxter equation with a rank 1 symmetry algebra, which is described by an integral operator with an elliptic hypergeometric kernel. The reduced R -operators reproduce at their bottom the standard Baxters R -matrix for the 8-vertex model and Sklyanins L -operator. The general formula has a remarkably compact form and yields new elliptic solutions of the Yang–Baxter equation based on the finite-dimensional representations of the elliptic modular double. The same result is reproduced using the fusion formalism.