

Quantum symmetric pairs and K-matrices

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The Yang–Baxter equation (YBE) and the reflection equation (RE)—also known as the boundary Yang–Baxter equation—are fundamental symmetries in integrable systems, governing particle interactions on a line or a half-line. While the YBE is deeply connected to quantum groups, solutions of the RE, called K-matrices, arise naturally in the framework of quantum symmetric pairs (QSPs). In this talk, I will survey recent developments—many obtained in collaboration with B. Vlaar—highlighting the role of QSPs in the construction and classification of integrable boundary conditions.