

Towards the gravity/CYBE correspondence

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We present a systematic way to consider integrable deformations of the $\text{AdS}_5 \times \text{S}^5$ superstring. It is based on classical r -matrices satisfying classical Yang–Baxter equation (CYBE). Then a classical r -matrix corresponds to a gravitational solution that describes a deformed $\text{AdS}_5 \times \text{S}^5$ geometry. In this talk, we present some examples including the Lunin–Maldacena backgrounds for beta deformations of the $\mathcal{N} = 4$ super Yang–Mills theory, the Maldacena–Russo backgrounds for non-commutative gauge theories, and Schrödinger spacetimes dual for non-relativistic conformal field theories.