

Sine-Gordon field theory vs. relativistic Calogero-Moser N -particle systems

Thursday, September 5, 2019 11:45 AM (45 minutes)

We survey the relation between the relativistic sine-Gordon model and (a special case of) the hyperbolic relativistic integrable N -particle systems of Calogero-Moser type. More specifically, we review the intimate link between the classical version of the latter and the particle-like sine-Gordon solutions, and present compelling evidence that this soliton-particle correspondence turns into a physical equivalence on the quantum level, in the sense that the same scattering amplitudes and bound state energies arise in the quantum field-theoretic and N -particle models.

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