

Applications of the twisted boson theory and linear response theory to XXZ chain

Thursday, 17 December 2020 17:40 (20 minutes)

In this talk, I introduce two different approaches to treat the XXZ Heisenberg chain with twisted boundary conditions. One is the linear response theory, which treats the twists as a perturbation. The other is the twisted boson theory, which treats irrelevant terms as a perturbation after considering the effects of the twists. Surprisingly, these two formalisms cannot make the same results. We reveal the reason for this mismatch and demonstrate related problems which are significant when considering fundamental aspects of equilibrium and nonequilibrium physics.

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Session Classification: Short talks