

## Workshop on Integrability



Contribution ID: 23

Type: 20 Min Talk

# The relevant excitations for the one-body function in the Lieb-Liniger model

*Monday, 28 March 2022 11:30 (30 minutes)*

We study the ground state one-body correlation function in the Lieb-Liniger model. In the spectral representation, correlations are built from contributions stemming from different excited states of the model. We aim to understand which excited states carry significant contributions, specifically focusing on the small energy-momentum part of the dynamic one-body function. We conjecture that relevant excitations take form similar to two-spinon states known from XXZ spin chain. We validate this hypothesis by numerical evaluation of the correlator with ABACUS algorithm and by analytical computations in the strongly interacting regime.

**Primary author:** SANT'ANA, Felipe (Faculty of Physics, University of Warsaw)

**Presenter:** SANT'ANA, Felipe (Faculty of Physics, University of Warsaw)

**Track Classification:** Participants Talks: Abstracts of Participants Talks