Contribution ID: **10** Type: **Poster**

Trans-series Solutions in the Lieb-Liniger Model

The Lieb-Liniger model is a fundamental example of an interacting integrable system, describing bosons in one dimension with point-like interactions. A key challenge in its study is solving the linear integral equations that govern the rapidity density and its moments. In this talk, I will present a trans-series approach to solving these equations, which systematically encodes both perturbative and non-perturbative effects. I will describe how to construct the trans-series from a perturbative basis obtained via ordinary differential equations and demonstrate its consistency with high-precision numerical results.

Author: LE PLAT, Dennis (Wigner Research Centre for Physics)

Presenter: LE PLAT, Dennis (Wigner Research Centre for Physics)

Session Classification: Poster