



Contribution ID: 101

Type: Talk

## **【259】 Reconstructing quantum states from single-party information**

*Wednesday 23 August 2017 16:15 (15 minutes)*

The possible compatibility of density matrices for single-party subsystems is described by linear constraints on their respective spectra. Whenever some of those quantum marginal constraints are saturated, the total quantum state has a specific, simplified structure. We prove that these remarkable global implications of extremal local information are stable, i.e. they hold approximately for spectra close to the boundary of the allowed region. Application of this general result to fermionic quantum systems allows us to characterize natural extensions of the Hartree-Fock ansatz and to quantify their accuracy by resorting to one-particle information, only.

**Authors:** BENAVIDES-RIVEROS, Carlos L. (Martin-Luther-Universität Halle-Wittenberg); SCHILLING, Christian (University of Oxford); VRANA, Péter (Department of Geometry, Budapest University of Technology and Economics, Budapest, Hungary)

**Presenter:** BENAVIDES-RIVEROS, Carlos L. (Martin-Luther-Universität Halle-Wittenberg)

**Session Classification:** Theoretical Physics

**Track Classification:** Theoretical Physics