

Symposium One-Dimensional Quantum Many-Body Systems between Bose and Fermi Statistics (SYMB)

jointly organised by

the Quantum Optics and Photonics Division (Q) and
the Atomic Physics Division (A)

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Significant breakthroughs in the challenge to interpolate between Bose-Einstein and Fermi-Dirac statistics have recently been achieved in one-dimensional cold atomic lattice systems. Notably, a density-dependent hopping paves the way for realizing phases and phenomena that arise uniquely from anyonic statistics. Non-Abelian extensions further build a bridge to quantum information sciences. This symposium highlights recent advances and future directions in the fields of induced anyonization, Raman-dressed topological field theories, quantum spin systems, and Floquet engineering of fractional statistics.

Overview of Invited Talks and Sessions

(Lecture hall P 1)

Invited Talks

SYMB 1.1	Thu	14:30–15:00	P 1	Exploring gauge theories for 1D anyons in Raman-coupled Bose gases — •LETICIA TARRUELL
SYMB 1.2	Thu	15:00–15:30	P 1	Non trivial particle exchange in one dimension: The anyon Hubbard model and beyond — •ANDRÉ ECKARDT
SYMB 1.3	Thu	15:30–16:00	P 1	Exotic Quantum Statistics in Strongly Interacting 1D Bose Gases — •HANNS-CHRISTOPH NÄGERL
SYMB 1.4	Thu	16:00–16:30	P 1	Dipolar gases in triangular ladders — •LUIS SANTOS

Sessions

SYMB 1.1–1.4	Thu	14:30–16:30	P 1	One-Dimensional Quantum Many-Body Systems between Bose and Fermi Statistics
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Related session within the Quantum Optics and Photonics Division

Q 75.1–75.6	Fri	11:00–12:30	P 11	Quantum Systems between Bose and Fermi Statistics
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