

Gabriele Ferrari (University of Trento, Italy): *Bose Gases*

The goal of the course is to provide an introduction to the main features of bosonic gases in the quantum degenerate regime addressing the properties of the system's ground state, the fundamental many-body excitations and the topological excitations. After considering the context of spin-polarized Bose-Einstein condensates, mixtures of binary superfluids and coherently-coupled condensates will be discussed.

Suggested reading: Making, probing and understanding Bose-Einstein condensates W. Ketterle, D.S. Durfee, D.M. Stamper-Kurn Contribution to the proceedings of the 1998 Enrico Fermi summer school on Bose-Einstein condensation in Varenna, Italy. <https://arxiv.org/abs/cond-mat/9904034>