

Research Activity of the Padova Group

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Members of the Padova Group

PRIN Local Coordinator: F. Toigo

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International Collaborators: B.A. Malomed (Tel Aviv), B. Julia-Diaz (Barcelona), A. Polls (Barcelona), G. Szirmai (Budapest), J. Tempere (Antwerpen)

- Monte Carlo simulations of the **strongly-interacting Bose gas**
(F. Ancilotto, M. Rossi, L. Salasnich, F. Toigo)
- Density functional theory for **Bose and Fermi superfluids**
(F. Ancilotto, L. Salasnich, F. Toigo)
- Quantum information of **double, triple and quadruple wells**
(G. Mazzaella, L. Dell'Anna, A. Parola [Como], V. Penna [Torino], L. Salasnich, F. Toigo)
- Mean-field results with **ultracold atoms with spin-orbit coupling**
(L. Dell'Anna, G. Mazzaella, L. Salasnich, F. Toigo)
- Mean-field approach to **exciton polaritons**
(B.A. Malomed [Tel Aviv], L. Salasnich, F. Toigo)
- Analytical path-integral results for the **2D BCS-BEC crossover**
(P.A. Marchetti, L. Salasnich, F. Toigo)