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Nota di contenuto	Local smoothing of Fourier integral operators and Hermite functions -- On () -classes on the Engel group -- Gelfand triples for the Kohn–Nirenberg quantization on homogeneous Lie groups -- A multiplicity result for a non-homogeneous subelliptic problem with Sobolev exponent -- The Dixmier trace and the noncommutative residue for multipliers on compact manifolds -- On the focusing energy-critical 3D quintic inhomogeneous NLS -- Lifespan of solutions to nonlinear Schrödinger equations with general homogeneous nonlinearity of the critical order -- Spectral theory for magnetic Schrödinger operators in exterior domains with exploding and oscillating long-range potentials -- Simple proof of the estimate of solutions to Schrödinger equations with linear and sub-linear potentials in modulation spaces -- Remark on asymptotic order for the energy critical nonlinear damped wave equation to the linear heat equation via the Strichartz estimates -- On uniqueness for the generalized Choquard equation -- Characterization

of the ground state to the intercritical NLS with a linear potential by the virial functional -- Well-posedness for a generalized Klein-Gordon-Schrödinger equations.

Sommario/riassunto

This book originates from the session "Harmonic Analysis and Partial Differential Equations" held at the 12th ISAAC Congress in Aveiro, and provides a quick overview over recent advances in partial differential equations with a particular focus on the interplay between tools from harmonic analysis, functional inequalities and variational characterisations of solutions to particular non-linear PDEs. It can serve as a useful source of information to mathematicians, scientists and engineers. The volume contains contributions of authors from a variety of countries on a wide range of active research areas covering different aspects of partial differential equations interacting with harmonic analysis and provides a state-of-the-art overview over ongoing research in the field. It shows original research in full detail allowing researchers as well as students to grasp new aspects and broaden their understanding of the area.