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Nota di contenuto	Non-compact groups and irreducible representations -- Duality theorems in conformal geometry -- Covariant differential operators -- Generalized young tableaux and weight multiplicity for classical Lie groups -- $G(2) \supset SU(2) \times SU(2)$ shift operators and scalars -- Generalised young tableaux for Lie algebras and superalgebras -- The DeSitter symmetry of the Dirac equation -- Casimir operators for inhomogeneous classical groups -- Construction and unitary representations of the non - compact groups of supergravity -- A new look at group orthogonality relations -- Lie supergroups and graded Lie groups -- The invariants of the nondegenerate representations of the group of the pseudo — orthogonal matrices $SO(P,1)$ -- Topological and algebraic structure of linear problems associated with completely integrable systems -- Infinite dimensional symmetry algebras in integrable systems -- Scattering and transfer in some group theoretical potentials -- Reduction of supersymmetric σ -models on graded manifolds -- Two dimensional σ -models and harmonic maps from S^2 to S^{2n} -- Completely integrable Hamiltonian systems and the separation of variables -- Conformally invariant pure spinor models -- “Exact solvability in chiral and gauge theories” -- An inverse scattering transform technique for stationary Axi-symmetric Einsteins-Maxwell

fields -- The symmetric space property and the embedding problem for stationary Axi-symmetric Einstein-Maxwell fields -- Self-dual Yang-Mills as a totally integrable system -- Constrained Hamiltonian systems -- Backlund problem, differential algebra and group theory -- Are atomic Hartree-Fock equations linearizable? -- Oscillator-like unitary representations of non-compact groups and supergroups and extended supergravity theories -- Gravity, supergravities and integrable systems -- Free graded differential superalgebras -- Relativistic wave equations from supergroup quantization -- Generalized Kerr-Schild transformation -- Adding a Λ -term to pp-wave solutions of the Einstein field equations -- Aspects of a $\text{spin}(1,4)$ gauge theory with Kaluza-Klein symmetry -- Composite gravity and composite supergravity -- Labelling of irreducible representations of super Lie algebras -- Tensorial properties of incommensurate crystals -- Bifurcations and symmetry changes in crystals -- The structure of space — Groups' unitary representations -- Band structure of almost periodic potentials -- Space group representations for crystal structure types -- Selection rules for polymers -- Automorphism symmetries of space group selection rules -- Invariant formulation for the zeros of covariant vector fields -- Associated corepresentations and symmetry of Clebsch-Gordan coefficients -- Generalized and symmetrized Clebsch Gordan coefficients for antiunitary groups -- Generalized coupling coefficients for space groups -- Active representations of space groups based on the cubic lattice -- Reduced large N models -- Derivation of infinite-component wave equations from field theory -- Maximal symmetries on potentials and gauge invariance -- Ghosts, Anomalies and the geometry of gauge fields -- Colour algebras and generalized statistics -- The branching rule of Weyl and the quantum number $b(\lambda_1, \lambda_2, \lambda_3)$ -- On a new regularization method for Feynman diagrams -- Explicit realization of E_8 -- Dynamical symmetry breaking in $SU(2) \times U(1)$ in weak coupling limit -- Dynamical unification of fermions and gauge bosons for internal symmetry and gravity -- $Q = I_3 + 12Y$. WHY? -- Examples of group contraction -- Symmetry breaking in the spectrum generating group and its experimental tests -- Construction of the dynamical symmetry group of the relativistic harmonic oscillator by the Infeld-Hull factorization method -- Dynamical semigroups for resonances in rigged Hilbert spaces -- Extrema of Landau and Higgs polynomials and zeros of renormalization-group equations -- Group contraction and macroscopic quantum systems -- The Interacting Boson Model and its connection with group theory -- Boson mappings in nuclear physics. A brief and prejudiced survey -- Does accidental degeneracy imply a symmetry group? -- "A hidden symmetry in collective excitations of many-body systems" -- The $U(6)$ symmetry in the microscopic collective model -- $SO(2n+1)$ in an $[SU(2)]^n$ basis: Symmetric representations -- A formalism for the microscopic interacting boson model with non-degenerate orbits -- $SU(3)$ in an $O(3)$ basis: Eigenvalue spectrum of the $Q \neq 0$ AND $O \neq 0$ operators -- $SU(4)$ in an $SO(4)$ basis : Shift operator technique -- The algebraic geometry of multimonopoles -- Dimensional reduction, spinor fields and characteristic classes -- Graded bundles in the Ogievetsky-Sokatchev supergravity -- Analysis and comparison of different ways of identification of spin functions variables -- A generalized imprimitivity theorem for a class of POV — measures -- Inversions in twistor space -- Physical group theory and Euclidean space -- Some aspects of random walks on groups -- Ising model on finitely presented groups -- Self-triality in statistical mechanics and field theory -- Symmetries of finite hard rod systems -- Influences of lattice dimension d and character of spin-interactions on

the thermodynamics of Ising models -- Gauge invariance in the strong coupling BCS-model -- On the algebraic properties of the Luttinger model -- Dynamical groups and coexistence phenomena.
