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Nota di contenuto	Last interview with D.V. volkov -- p-Brane chemistry -- Intersecting branes and supersymmetry -- Properties of intersecting p-branes in various dimensions -- Super D-branes -- Volkov-akulov theory and D-branes -- Ten to eleven: It is not too late -- Aspects of superembeddings -- Superbrane actions and geometrical approach -- The M theory five-brane and the heterotic string -- A linear representation for the topological extensions of the poincaré superalgebra in d=11 -- On the construction of global duality maps in strings and supermembrane theories -- Planckian energy scattering of D-branes and M(atrrix) theory in curved space -- Self-duality in nonlinear electromagnetism -- Progress toward A classical (SUSY) <sup>2</sup> 4D, N=1 green-schwarz ?-model action -- N=4 supersymmetric integrable

systems -- On some puzzles in  $N=2$  supersymmetric gauge theory -- Alternative formulations of  $N=2$  supersymmetric gauge theory in harmonic superspace -- Lie-algebraic characterization of 2D (super-) integrable models -- Universal hidden supersymmetry in classical mechanics and its local extension -- The hamiltonian structure of the "bosonic" and "fermionic" extensions of  $N=2$  KdV hierarchy -- Mass generation in the supersymmetric Nambu-Jona-Lasinio model in an external magnetic field -- On extension of minimality principle in supersymmetric electrodynamics -- Stochastic Wess-Zumino-Witten models -- On  $(k \oplus l/q)$ -dimensional supermanifolds -- Let the spin and the charges unify -- Kerr spinning particle and superparticle models -- Spinors and parafermions in fermion cosets -- Exact solutions in Einstein-Yang-Mills theories -- Higher massless irreducible spins in the BRST approach -- Sonoluminescence and black holes as sources of squeezed light -- Remark concerning integrable Hamilton systems --  $q$ -Deformed heisenberg algebra -- Supersymmetric reflection matrices -- Deformed oscillator algebras and higher-spin gauge interactions of matter fields in  $2+1$  dimensions -- Universality of the  $R$ -deformed heisenberg algebra -- The dual algebra of the Jordanian  $GL_{\mathfrak{h}(2)}$  -- Supertraces on some deformations of heisenberg superalgebra -- Harish-chandra embedding and  $q$ -analogues of bounded symmetric domains --  $q$ -differential calculus and deformed light-cone --  $0$ ) and infinitesimal transformations -- Integrating a generic algebra -- On the quantization of half-integer spin fields --  $S$ -matrix in the generalized quantization method -- Regge poles in nucleon-nucleon and nucleon-antinucleon scattering amplitudes --  $SU(3) \times SU(3)$  symmetry and the baryon-meson coupling constants -- Phenomenological lagrangian for spin waves -- Possible universal neutrino interaction -- Higgs effect for goldstone particles with spin  $1/2$  -- Gauge fields on superspaces with different holonomy groups -- Spontaneous compactification of subspace due to interaction of the einstein fields with the gauge fields -- Hamiltonian systems with even and odd poisson brackets: duality of their conservation laws.

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**Sommario/riassunto**

This volume contains important contributions to various topics of modern theoretical physics: supermembranes, supersymmetry, and quantum field theory and quantum groups. The book is dedicated to the late D. Volkov and also contains a selection of his pioneering work in spin and statistics, supersymmetry, supergravity, and superstrings.

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