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Non-linear Realization of PSU(2,2|4) on the Light-Cone SUNG-SOO KIM, SUDARSHAN ANANTH, PIERRE RAMOND, Institute for Fundamental Theory, University of Florida, LARS BRINK, Chalmers University, Sweden — The symmetries of the N=4 SuperYang-Mills theory on the light-cone are discussed, solely in terms of its physical degrees of freedom. We derive explicit expressions for the generators of the PSU(2,2|4) superalgebra, both in the free theory, and to all orders in the gauge coupling of the classical theory. We use these symmetries to construct its Hamiltonian, and show that it can be written as a quadratic form of a fermionic superfield.

Sung-Soo Kim
Institute for Fundamental Theory, University of Florida

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