

QUANTIZING AND HAVING IT WHOLE
(Quantum Super-Strings with
explicit Lorentz and space-time-SUSY invariance)

Sorin SOLOMON

The Hebrew University of Jerusalem

I describe the Covariant Quantization of space-time-supersymmetric
Superstrings and Superparticles.

Our method requires a FINITE number of auxiliary variables and ghosts.

As a proof of the correctness of our procedure, we show that by the
second-quantization of this system, one obtains Superfield Actions
for the relevant extended supersymmetric field theories.

This includes $N=4$ SYM and $N=8$ SUGRA for which existent No-Go theorems
are circumvented.

The auxiliary variables required by the gauge structure of the system
turn out to have deep relations to the twistor geometrical aspects
of space-time.