



Contribution ID: 263

Type: **Poster**

## Numerical investigations of Supersymmetric Yang-Mills Quantum Mechanics with 4 supercharges

*Tuesday, 24 June 2014 18:10 (2 hours)*

We report on our non-perturbative investigations of Supersymmetric Yang-Mills Quantum Mechanics with four supercharges. We employed two independent numerical methods. As a first method we used the cut Fock space approach in which one constructs the Hamiltonian matrix in an approximated basis of the Hilbert space and diagonalize it numerically to obtain the energy spectrum. As a second method we implemented the Rational Hybrid Monte Carlo algorithm which allowed us to study our system from a complementary perspective. We present a comparison of results obtained by the two methods for the models with SU(2) and SU(3) gauge groups, focusing on the low-energy part of the spectrum and on the structure of the ground states.

**Primary authors:** Dr KORCYL, Piotr (DESY Zeuthen); Mr AMBROZINSKI, Zbigniew (Jagiellonian University)

**Presenter:** Dr KORCYL, Piotr (DESY Zeuthen)

**Session Classification:** Poster session

**Track Classification:** Physics Beyond the Standard Model