Contribution ID: **295** Type: **Talk**

Spectroscopy of two dimensional N=2 Super Yang Mills theory

Tuesday, 26 July 2016 17:30 (20 minutes)

Albeit the standard model is the most successful model of particles physics, it still has some theoretical shortcomings, for instance the hierarchy problem, the absence of dark matter, etc. . Supersymmetric extensions of the standard model could be a possible solution to these problems.

One of the building blocks of these supersymmetric models are supersymmetric gauge theories. It is expected that they exhibit interesting features like confinement, chiral symmetry breaking, magnetic monopoles and the like.
We present new results on N=2 Super Yang Mills theory in two dimensions. The lattice action is derived by a dimensional reduction of the N=1 Super Yang Mills theory in four dimensions. By preserving the R symmetry of the four dimensional model we can exploit Ward identities to fine tune our parameters of the model to obtain the chiral and supersymmetric continuum limit. This allows us to calculate the mass spectrum at the physical point and compare these results with effective field theories.

Primary authors: Prof. WIPF, Andreas (Friedrich Schiller University Jena); Dr WELLEGEHAUSEN, Bjoern (ITP University Giessen); Mr AUGUST, Daniel (Friedrich Schiller University Jena)

Presenter: Mr AUGUST, Daniel (Friedrich Schiller University Jena)

Session Classification: Physics Beyond the Standard Model

Track Classification: Physics Beyond the Standard Model