Contribution ID: **373** Type: **Oral Presentation**

The Giant Graviton Oscillator

Thursday, 14 July 2011 09:00 (30 minutes)

<p>N=4 SYM theory has been extensively studied in the planar limit. An important result is that the planar dilatation operator can be mapped to the Hamiltonian of an integrable system.

In this talk we study certain large N (but not planar) limits of the theory. We argue that the dilatation operator remains integrable: it reduces to a set of decoupled harmonic oscillators. This challenges claims that integrability is spoiled by non-planar corrections.

We argue that the decoupled oscillators that arise describe the vibration modes of a quantum membrane.

Level (Hons, MSc,
   PhD, other)?

other

Consider for a student
   award (Yes / No)?

no

Would you like to <br> submit a short paper <br> for the Conference
 Proceedings (Yes / No)?

no

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