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From Large N Nonplanar Anomalous Dimensions to Open Spring Theory

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Abstract content
   (Max 300 words)

According to the AdS/CFT correspondence, the conformal dimension of an operator in the N = 4 Super Yang-Mills theory is dual to the energy of the
corresponding state in IIB string theory on the AdS5× S5 background. In this work, we solve the eigenvalue problem of the one-loop dilatation operator
acting on restricted Schur polynomials whose dimension is O(N), where N is large. After diagonalizing this action, the nonplanar anomalous dimension
spectrum is found to match that of a classical system of oscillating springs between masses. This result provides further support that these field theory
operators are dual to excited giant gravitons in the dual string theory.

Apply to be
 consider for a student
   award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
   PhD)?

Ph.D.

Main supervisor (name and email)
and his / her institution

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

No

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