



THE QUANTUM SPACETIME SEMINAR SERIES

A Rosetta Stone for Wilson Line Defects

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Venue: AG 66



In this talk I will give an introduction to the solution of the spectral problem 1D defect CFT living on the supersymmetric Wilson Line in $N=4$ Super-Yang-Mills theory. First, I will review the descriptions of the theory on both sides of the AdS/CFT correspondence, and how one can go about enumerating states in either setup. Then, since the insertion of the line defect preserves the integrability structure, I will briefly describe how one can adapt integrability-based methods originally developed to compute the spectrum of local operators in $N=4$ Super-Yang-Mills theory to the spectral problem of the defect CFT, before displaying the non-perturbative low-lying spectrum certain subsectors of the theory. Lastly, by focussing on "two-particle" states in the theory, I will propose a simple map from the letters that capture the degrees of freedom on the gauge theory side, to the letters capturing degrees of freedom on the string theory side. This map immediately predicts a particular behaviour of the spectral data, which can be checked against existing integrability based results.

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