Direct evidence for the Maldacena conjecture for $\mathcal{N} = (8,8)$ super Yang-Mills theory in 1+1 dimensions[1] UWE TRITTMANN, Otterbein College — We solve $\mathcal{N} = (8,8)$ super Yang-Mills theory in 1+1 dimensions at strong coupling to directly confirm the predictions of supergravity at weak coupling. We do our calculations in the large-N_c approximation using Supersymmetric Discrete Light-Cone Quantization with up to 3×10^{12} basis states. We calculate the stress-energy correlator $\langle T^{++}(r)T^{++}(0)\rangle$ as a function of the separation r and find that at intermediate values of r the correlator behaves as r^{-5} to within errors as predicted by weak-coupling supergravity. We also present an extension to significantly higher resolution of our earlier results for the same correlator in the $\mathcal{N} = (2,2)$ theory and see that in this theory the correlator has very different behavior at intermediate values of r.

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