

## **Antisymmetric Wilson loops in $N = 4$ SYM: from exact results to non-planar corrections**

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Wilson loops have played a central role in the development of gauge/gravity dualities. We consider the vacuum expectation values of 1/2-BPS circular Wilson loops in  $N=4$  super Yang-Mills theory in the totally antisymmetric representation of the gauge group  $U(N)$  or  $SU(N)$ . Localization and matrix model techniques provide exact, but rather formal, expressions for these expectation values. We extract the leading and sub-leading behavior in a  $1/N$  expansion with fixed 't Hooft coupling starting from these exact results. This is done by exploiting the relation between the generating function of antisymmetric Wilson loops and a finite-dimensional quantum system known as the truncated harmonic oscillator.

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