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## Half-BPS Wilson line and defect 1d CFT

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The half-BPS Wilson line in  $N=4$  SYM preserves a 1d superconformal symmetry and can be viewed as a conformal defect of the 4d gauge theory. I will review some recent results for the “defect CFT1” defined by the correlation functions of operators inserted on the line, and its holographic duality to the string sigma model expanded around the AdS2 minimal surface. In particular, I will explain how to use supersymmetric localization to derive exact results for the correlators of a class of protected defect primaries of arbitrary length (reproducing, as a special case, known integrability results for the “generalized Bremsstrahlung function”). At strong coupling, the localization results are shown to precisely match the holographic calculation using the dual AdS2 worldsheet description.

### Summary

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