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SUSY localization for Coulomb branch operators in 3 and 4 dimensions

Wednesday 6 February 2019 09:30 (1 hour)

We calculate, via SUSY localization, the correlators of the operators whose vevs parametrize the Coulomb branches. In $4d$, we review the computation of the correlators of Wilson-'t Hooft line operators in $N = 2$ gauge theories on $S^1 \times \mathbb{R}^3$. The results involve Z_{mono}, the monopole analog of the Nekrasov instanton partition function. For a class $\mathcal{S}$ theory, the correlators describe deformation quantization of the Hitchin moduli space in terms of Fenchel-Nielsen coordinates. In $3d$, we compute correlators of dressed monopole operators in $N = 4$ gauge theories on $\mathbb{R}^3$ with omega deformation and develop similar stories. We compare our results with those obtained in other approaches. Based on arXiv:1111.4221 with Ito and Taki, as well as on a work in progress with Y. Yoshida.

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