Contribution ID: **13** Type: **not specified**

Lower dimensional BPS sectors in 4d SU(N) N=4 SYM

Tuesday, 14 June 2022 16:10 (35 minutes)

I will explain how in the expansion near roots of unity, the four-dimensional superconformal index decomposes into a sum over independent sectors, some of them described by A-models wrapping Riemann surfaces. Starting from the four dimensional index the partition function of these lower dimensional systems is reduced to a sum over vacua of the specific A-model. The number of degrees of freedom is subleading in the large N expansion, and their contribution to the index, which seems to naturally organize as a sum over genus-g contributions, calls for a string dual interpretation.

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