

# NON-TRIVIAL ELLIPTIC FIBRATION OVER A PAIR OF PANTS AND SUSY PARTITION FUNCTION

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TUESDAY OCTOBER 30, 2018

In this talk I will outline how to compute the partition function of  $N=2$  supersymmetric gauge theory on a four dimensional space which is a torus fibered over a pair of pants. The torus fibration is taken to be degenerate on the three boundary circles of the pair of pants, in the sense that the torus gets twisted by monodromy transformation as it is transported around each of the circles. The total monodromy around the three circles taken together is identity, so that the total space is smooth. Near the end of talk I will also say a few words about the two dimensional supersymmetric partition function on the pair of pants.

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