

$$Z - 2u^{1/2} \Lambda$$

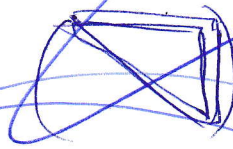
$$\det(Z - 2u^{1/2} \Lambda)$$

integrate by

$$\int_{u=x^{D+1}} x^n e^{-x^2} dx$$

$$x^{n-2} e^{-x^2}$$

by integrating by parts



Chuh

$$S_1 = \text{tr}(\tilde{\Delta}(t))$$

$$= \sum_i \tilde{\Delta}_{ii}(t)$$

and $\mathbb{E} \tilde{\Delta}_{ii}(t) = 0$

so $\mathbb{E} S_1 = 0$

$$u^{1/2} \left(\frac{Z}{u^{1/2}} - 2\Lambda \right)$$

Is highest term

$$Z - 2u^{1/2} \Lambda$$

eigenvalues of sum of matrices

get the order using integration

$$\left\| \frac{Z}{u^{1/2}} \right\| \leq \eta$$

$$\|Z/u^{1/2}\| < \frac{1}{2}$$

$$\eta < \frac{1}{2} \|2\Lambda\|$$

Derive order using the next term in the expansion.

$$\eta < \min_i \lambda_i > 0$$

> 0 as Λ is the definite

$$Z \text{ in general D.}$$