integrate by

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

$u = x^{n+1}$

$du$

$x^{n+1} e^{-x^2}$

by integrating by parts

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

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

$P(P+1)/2$

Chuh

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

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

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

so $\mathbb{E}S_1 = 0$

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

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

eigenvalues of sum of matrices

Is highest term

$Z$ $u^{\frac{2D-1}{2}}$

get the order using integration!

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

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

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

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

Derive order using the next term in the expansion.

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

$> 0$ as $\Lambda$ is the definite

$Z$ in general D.