Jacobi Polynomial Moments and Products of Random Matrices

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Products of Random Matrices

- We consider products of independent matrices of the form

$$Y_{r,s} = G_r \dots G_{s+1} T_s \dots T_1$$

  where $T_1, \dots, T_s$ are truncations of Haar distributed unitary matrices and $G_{s+1}, \dots, G_r$ are complex Ginibre random matrices ($s < r$).
- Here, the j-th matrix has dimension $(n + \nu_j) \times (n + \nu_{j-1})$, where $\nu_j \geq 0$, $\nu_0 = 0$, and each T_j can be considered as the left upper block of a Haar distributed unitary random matrix of size $l_j \geq 2n + \nu_j + \nu_{j+}$