\[ \rho (E_1, E_2) = \sum_{\nu \neq e} \delta (E_2 - \nu e) - \rho (E_1) \rho (E_2) + \delta (E_2 - \nu e) \rho (E_1) \]

Self correlations

\( E_N \) measures

\[ E_N (n, [a_1, a_2]) \] is the probability that there are exactly \( n \) eigenvalues in \([a_1, a_2]\) for an ensemble of sequences of \( N \) eigenvalues

\[ E_N (0, [a_1, a_2]) \] is the emptiness formation probability.

\( D_3 \) statistic

\[ D_3 (E) = \frac{1}{a + b E} \min_{a, b} \left[ \sum_{E_1} \left( N (E) - a - b E \right)^2 \right] \]

introduced by Dyson and Mehra