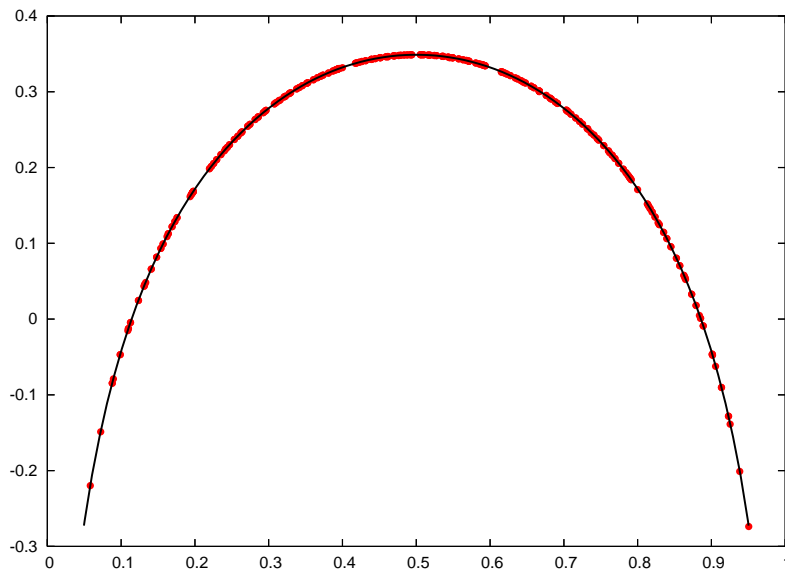
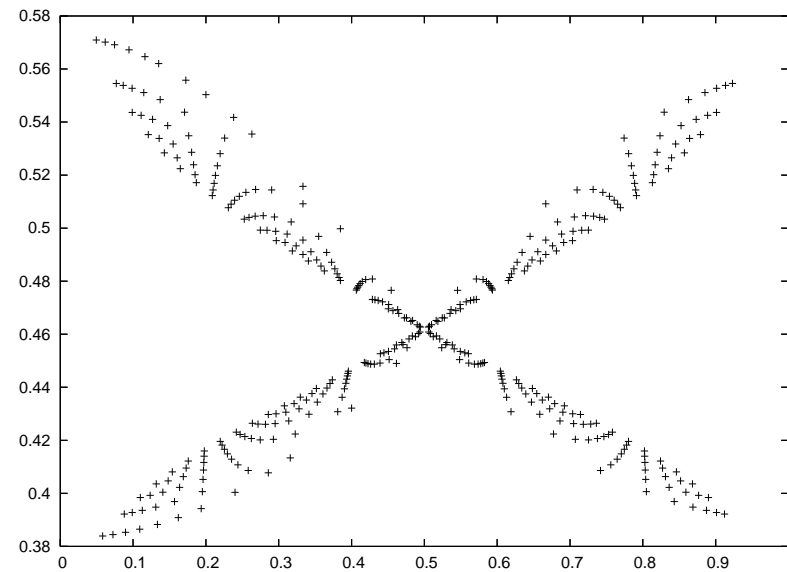


$$\rho_2(L) = \frac{1}{16L^4} \begin{pmatrix} 2L^2 + 8L + 6 & 0 & 0 & 0 \\ 0 & 6(L^2 - 1) & 5L^2 + 3 & 0 \\ 0 & 5L^2 + 3 & 6(L^2 - 1) & 0 \\ 0 & 0 & 0 & 2L^2 - 8L + 6 \end{pmatrix}$$

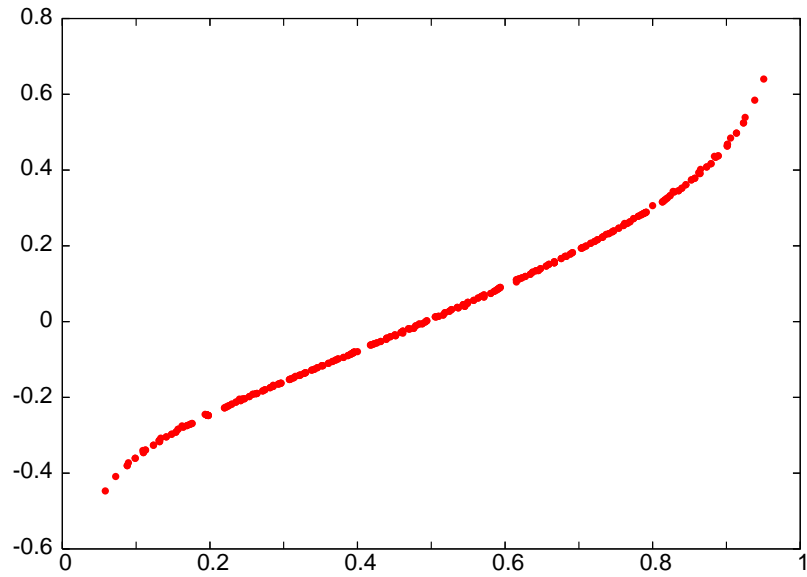
example of an exact density matrix of part of a quantum spin chain



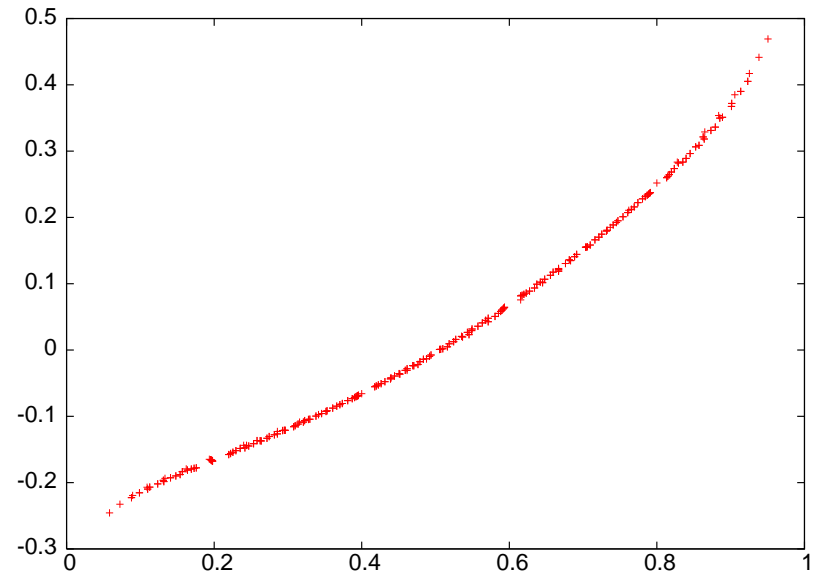
Entanglement entropy
as function of size ratio



and its finite size correction



$\alpha = 2$



$\alpha = 8$

Scaling function for finite size correction of Rényi entropy