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*Complex matrix scalings and the geometric measure of entanglement*

Given a positive definite matrix  $A$  and a diagonal matrix  $D$ , we say that  $D$  scales  $A$  if  $D^*AD$  has all row and column sums equal to 1. We begin by introducing a connection between these matrix scalings and the geometric measure of entanglement (GME) of certain symmetric states. Motivated by this connection, we then embark on an investigation of these scalings, eventually arriving at an upper bound on the GME for a large group of Slater permanents.