MR2171010 (2006m:81037) 81P15
Lévay, Péter (H-BUTE-TP); Nagy, Szilvia (H-BUTE-TP); Pipek, János (H-BUTE-TP)
Elementary formula for entanglement entropies of fermionic systems. (English summary)

The von Neumann and Rényi entropies are calculated for a system of two fermions which have four single-particle states. These systems, although they are the simplest among the fermionic ones exhibiting such correlations, illustrate some of the differences between the entanglement of systems with distinguishable constituents and that of systems with indistinguishable constituents. An interesting geometric structure of fermionic entanglement is described. The calculated entropies satisfy some bounds which are different from the corresponding bounds for distinguishable qubits. This difference can be traced back to the so-called generalized Pauli principle.

Reviewed by Adán Cabello

© Copyright American Mathematical Society 2006, 2007