

Given a compact negatively curved surfaces there is a classical asymptotic formula (due to Margulis) for the number of closed geodesics of length at most T . Another characteristic of a closed geodesic is its word length, as a conjugacy class in the fundamental group. We consider asymptotic formulae for the distribution of differences of lengths of pairs of closed geodesics, with respect to the ordering by word length. This is partly motivated by pair correlations questions in Quantum Chaos, and is joint work with Richard Sharp.