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The lengths of conjugators in finitely presented groups.

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Abstract:

The conjugator length function $CL(n)$ is the most obvious measure of the complexity of a direct approach to the conjugacy problem in a finitely generated group G . It gives the minimal upper bound on the length of a shortest conjugator for any pair of conjugate elements in the ball of radius n in the Cayley graph of G .

I will describe the behaviour of CL for well-known families of groups, will report on what functions can be CL functions of finitely presented groups, will discuss the relationship between CL and other invariants, and will present some open problems.

This work is variously with Martin Bridson, Conan Gillis, and Andrew Sale.