On stable commutator length of a Dehn twist

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Abstract. Let $[G, G]$ be the commutator subgroup of a group G. For $x \in [G, G]$, we will denote by $\mathrm{cl}(x)$ the smallest number of commutators in G whose product is equal to x. We call $\mathrm{cl}(x)$ the commutator length of x. The stable commutator length of x, denoted by $\mathrm{scl}(x)$, is the limit

$$\mathrm{scl}(x) = \lim_{n\to} \frac{\mathrm{cl}(x^n)}{n}.$$

In generally, computing (stable) commutator length is difficult.

In this talk, we will present some background results of stable commutator length in mapping class groups. And we will give an upper bound of the stable commutator length of a Dehn twist. This is joint work with Danny Calegari and Masatoshi Sato.