On finite type (concordance) invariants of string links

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Abstract. A C_n-move is a local move on links defined by Habiro and Goussarov, which can be regarded as a 'higher order crossing change', and which gives a complete topological characterization of the informations contained by Goussarov-Vassiliev (or finite type) knots invariants: two knots cannot be distinguished by finite type invariants of degree $< n$ if and only if they are related by a finite sequence of C_n-moves.

The analogous statement is known to be false for links in general, but it is conjecturally true for string links, which are certain links with boundary. This conjecture is partly supported by the fact that Milnor invariants, which are invariants (of both links and string links) generalizing the linking number, are of finite type only for string links.

In this talk, we will classify l-component string links up to C_n-move for $n \leq 5$, by explicitely giving complete sets of low degree finite type invariants. In addition to Milnor invariants, these include several 'new' string link invariants constructed by evaluating knot invariants on certain closure of (cabled) string links.

We also give similar results for concordance finite type invariants.