

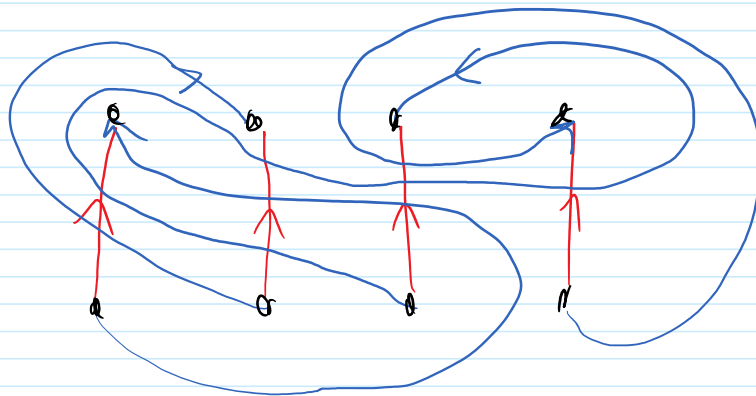
Seifert surfaces for tangles

January 5, 2019 1:12 AM

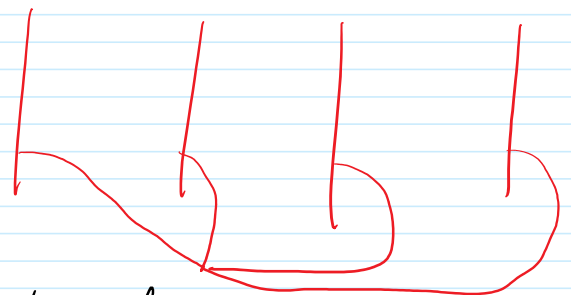
$2n$ points are given in the plane; n are marked with a $+$ sign and n with a $-$ sign.

A "curve system" is a family of n non-intersecting oriented simple paths connecting the n pluses to the n minuses.

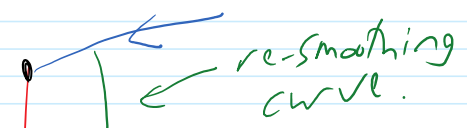
Proposition one can reach from any curve system to any other one by a sequence of isotopies, re-smoothings: $\left. \begin{matrix} \rightarrow \cup \text{ and cup creations} \\ \leftarrow \cap \text{ and annihilations} \end{matrix} \right\}$



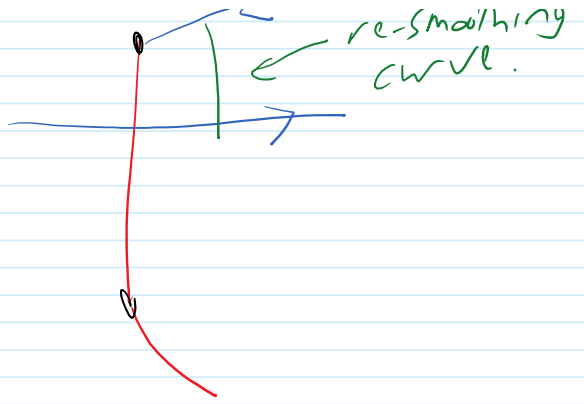
Proof 1. Extend red by adding connecting lines:



2. slide blue off the connecting lines,
3. use re-smoothings to get rid of all remaining



get rid of all remaining
red-blue intersections



4. what remains is

