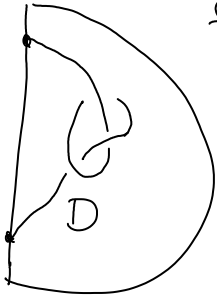


Satoh defined "roll-spinning".

Question Does roll-spinning always give a ribbon 2-knot? IF so, what is its w-diagram?

Satoh: A roll-spun knot is ribbon iff it is the unknot.

Roll-spinning:



spin this in \mathbb{R}^4 , while at the same time spinning the long knot-diagram D using the "cutting open" of the 2n-step "roll the basepoint along the knot":

