

$H(2)$ -Move and Other Local Moves on Knots

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Abstract. An $H(2)$ -move is a local move on an unoriented knot which is realized by smoothing a crossing. This is an unknotting operation, that is, any knot can be unknotted by a sequence of $H(2)$ -moves. So, we may define an $H(2)$ -unknotting number and $H(2)$ -Gordian distance. We introduce several methods to give a lower bound of the $H(2)$ -Gordian distance, which allow us to improve the table of $H(2)$ -Gordian distances for knots with up to seven crossings. We also consider a relation with the band surgery and delta move.