## An estimate of the unknotting numbers for virtual knots by forbidden moves

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**Abstract.** It is known that any virtual knot can be deformed into the trivial knot by a finite sequence of forbidden moves. In this talk, we give the difference of the values obtained from some invariants constructed by A. Henrich between two virtual knots which can be transformed into each other by a single forbidden move. As a result, we obtain a lower bound of the unknotting number of a virtual knot by forbidden moves.