

# COMPLEXITY AND INVARIANTS OF KNOT DIAGRAMS, CURVES, AND SURFACES

TAHL NOWIK

We will be interested in the number of Reidemeister moves required for passing from one knot diagram to another, or for splitting a diagram of a split link. Similarly, we will be interested in the number of singular moves required for passing from one planar or spherical curve to another, or from one immersion of a surface in 3-space to another, via regular homotopy. We will mainly focus on lower bounds for the number of such moves, for which one needs to use invariants that change in a controlled way under these moves. And so we will be lead to discuss invariants, and in particular finite type invariants, in all the above geometric settings.

DEPARTMENT OF MATHEMATICS, BAR-ILAN UNIVERSITY, RAMAT-GAN 52900,  
ISRAEL

*E-mail address:* `tahl@math.biu.ac.il`