

1135-57-104

David Freund* (dfreund@math.dartmouth.edu). *Complexity of virtual multistrings*. Preliminary report.

A virtual n -string α is a collection of n closed curves on an oriented surface M . Associated to α , there are two natural measures of complexity: the genus of M and the number of intersection points. By considering virtual n -strings up to equivalence by virtual homotopy, i.e., homotopies of the component curves and stabilizations/destabilizations of the surface, a natural question is whether these quantities can be minimized simultaneously. We show that this is possible for non-parallel virtual n -strings and that, moreover, such a representative can be obtained by monotonically decreasing genus and the number of intersection points from any initial representative. (Received July 28, 2017)