

1096-54-550

Ashley Weber* (weberae@umich.edu). *Bounds on the Übercrossing and Petal Number of Knots.*

A multi-crossing is a crossing in a projection of a knot with n strands of the knot passing straight through it. We consider projections with just one multi-crossing. It is known that every knot has such a projection, called an übercrossing projection, and therefore a well-defined übercrossing number, which is the minimum n for such a projection. We also consider projections with a single multi-crossing such that there are no loops contained within other loops, that we call petal projections. The petal number of a knot is the number of loops of the minimal petal projection of the knot. We investigate the übercrossing number and petal number and how it relates to other knot invariants. (Received September 05, 2013)