ABSTRACT

MICHAŁ JABŁONOWSKI

We present a systematic method to generate prime knot and prime link minimal triple-point projections. We then extend the classification of knots by the triple-crossing number. By introducing a new type of diagrammatic move and derive a minimal generating set of moves connecting triple-crossing diagrams of the same knot. We show that the triple-crossing number of any knot is greater or equal to twice its (canonical) genus. As an application, we show that this bound is strong enough to obtain the triple-crossing numbers of torus knots, and generally all positive-braid knots and their connected sums.