Constructing surface-diagrams with cross-exchangeable cycles

Tsukasa Yashiro

Sultan Qaboos Univeristy

Abstract. Roseman moves are local deformations of surface diagrams which are generalized version of Reidemeister moves of knot diagrams. Each Roseman move requires geometric conditions. We look at the the move which involves a saddle and a regular disc. This move changes the number of immersed circles or immersed intervals in the double decker set. For some diagrams we cannot apply this move to obtain a different diagram. We call this diagram a d-minimal surface diagram. On the other hand, we can define a special double curve in a surface diagram along which we can change the@crossing information so that we obtain a trivial diagram. We call this curve a cross-exchangeable cycle or arc. In this talk we present a construction of a series of d-minimal surface diagrams with cross-exchangeable cycles. This research is a joint work with Abdul Mohamad.