On surface-knots with cross-exchangeable cycles

Tsukasa Yashiro

Sultan Qaboos University

Abstract. A surface-knot is a closed oriented surface embedded in 4-space. A surface diagram of a surface-knot is the projected image in 3-space under the orthogonal projection with crossing information. It is not known whether or not any surface diagram can be obtained from a trivial surface diagram by applying crossing changes along double curves. For some surface diagrams, there exist special double curves along which crossing information can be changed so that the surface diagram is deformed into a trivial surface diagram. In this talk, we present a construction to obtain a family of surface-knots with exchangeable cycles. This research consists of collaboration projects with A. Mohamad and also with A. AlKharusi.