Periodic surface-knots and quandle extensions.

Periodicity is one of the most interesting and important concepts in mathematics pervading both science and nature. In classical knot theory, periodicity has been well studied. Higher dimensional periodic knots are introduced by Cruz in 1991. In this talk, we focus on surface-knots, i.e. smooth embeddings of connected and closed surfaces into a 4-dimensional space, and study periodicity. We moreover discuss some quandle extensions to color periodic surface-knots. (Received February 14, 2016)