1053-55-144 **K. Blake Winter*** (bkwinter@buffalo.edu), 244 Mathematics Bldg, SUNY, Buffalo, NY 14260.
Quandles for Virtual and Higher Dimensional Knots.

The quandle is a powerful algebraic invariant for classical knots. In particular it has been shown to be equivalent to the knot group and peripheral information. We show that this holds true in the higher dimensional case as well, and consider the consequences for the power of the quandle as an invariant of higher dimensional knots. By using a construction on welded knots which determines a surjection from welded knots to higher dimensional ribbon knots of type $S^1 \times S^n$, it is possible to show that the quandle of a welded (and hence virtual) knot is also determined by its knot group and peripheral subgroups. (Received August 31, 2009)