Fox colorings and cocycle invariants of roll-spun knots

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Abstract. A roll-spun knot is a knotted 2-sphere in 4-space obtained by spinning a classical knot with rollings along the longitude. We show how to calculate the cocycle invariant of a roll-spun knot generally, and prove that the invariant of any roll-spun knot is always trivial in the case of the dihedral quandle.