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Patricia Cahn* (pcahn@smith.edu). *Dihedral linking invariants of Fox-colorable knots*. Preliminary report.

The p -dihedral linking number is an invariant defined for a Fox p -colorable knot K . A Fox p -coloring of K determines a p -fold branched cover $f : M \rightarrow S^3$ of the three-sphere with branching set K . The dihedral linking number is the collection of (well-defined) linking numbers of the connected components of $f^{-1}(K)$. Perko developed an algorithm for computing this invariant when $p = 3$. We generalize Perko's method to other values of p and compute the invariant for families of p -colorable knots. We also discuss potential applications to the Slice-Ribbon problem. Parts of this work are joint with Alexandra Kjuchukova (MPIM), Olivia Del Guercio (Smith College), Jack Kendrick (Smith College), and Hana Sambora (Smith College). (Received September 02, 2019)