1128-57-209   **Patricia Cahn*** (`pcahn@smith.edu`) and **Alexandra Kjuchukova**. *Signatures of 4-manifolds via linking numbers of knots in dihedral covers of S^3.*

We give an algorithm for computing the linking number of two knots in a 3-manifold, where the 3-manifold is presented as an irregular 3-fold dihedral cover of S^3 branched along a knot. We then use these linking numbers, together with a formula of Kjuchukova, to compute signatures of 4-manifolds which arise as irregular dihedral covers of S^4. (Received February 27, 2017)