

1145-57-1918

Ryan Blair, Patricia Cahn* (pcahn@smith.edu) and **Alexandra Kjuchukova**. *Singular Branched Covers of the Four-Sphere*.

Which four-manifolds arise as three-fold branched covers of the four-sphere? We study this question for connected, embedded branching sets, with one singularity modelled on the cone on a knot K . We describe such a cover using a colored singular tri-plane diagram, which is a collection of three trivial tangles with compatible 3-colorings, satisfying certain additional properties. We describe new families of examples, and use these examples to study Kjuchukova's signature invariant, a ribbon obstruction derived from singular dihedral branched covers. (Received September 24, 2018)