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Dave Auckly* (auckly@msri.org), 17 Gauss Way, Berkeley, CA 94720. *Two-fold branched covers.*

It is possible to give a census of 2-fold covering behavior for surgeries on knots of 10 or fewer crossings. There are integral homology spheres that are not 2-fold branched covers of any 3-manifold, there are examples that are 2-fold branched covers of S^3 but no other manifold, examples that cover some manifold but not S^3 , and examples that cover several different manifolds. This talk will present these examples. Thurston asked if any every closed, irreducible, atoroidal 3-manifold with infinite fundamental group has a finite cover which is a surface bundle over the circle. This is the virtual fibering conjecture. The presentation will also include a virtual virtual fibering result showing that the answer is yes if cover is replaced by branched cover. (Received September 16, 2010)