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Shelly Harvey* (shelly@rice.edu) and **Tim Cochran**. *Metric Aspects of Knot Concordance*.

We are interested in the set of knots up to concordance, denoted C . C is an abelian group but its structure is not very well understood. We propose a new approach to understanding C , namely considering C as a metric space on which there exists many natural operators. One example of such an operator is connected-sum with a fixed knot, this approach is arguably more general than focusing on C as an abelian group. In fact, it was previously suggested by the authors along with C. Leidy that C is a fractal space and the proposed self-similarities of C are classical satellite operators. Very recently, Cochran-Davis-Ray proved that many of these satellite operators (strong winding number 1) are indeed injective, modulo the smooth 4-dimensional Poincare Conjecture. We show that that these operators are, in fact, isometric embeddings while winding number zero satellite operators are, by contrast, approximate contractions. This is joint work with Tim Cochran. (Received January 28, 2014)