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Title: Concordant geometries

Abstract:

The `geometry' in the title refers to Riemannian geometry, that is, the study of smooth manifolds equipped with a Riemannian metric, with the choice of metric endowing the space with a geometry. Equivalently, we can think of the shapes which can result when a manifold is embedded into Euclidean space of suitably high dimension. We will be interested in geometries which everywhere display positive curvature in one of a number of senses. On a given manifold it makes sense to ask about diversity of such geometries. When considering this question, there are certain natural ways in which we can view geometries as being equivalent, and this leads us to study the resulting equivalence classes. We will explore some of these, focusing on the notion of `concordance', and describe some recent work with Boris Botvinnik on this topic.