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Doubling Gluck twists

The Gluck twist of an embedded 2-sphere in the 4-sphere is a 4-manifold that is homeomorphic, but not obviously diffeomorphic to the 4-sphere. Despite considerable study, these homotopy spheres have resisted standardization except in special cases. In this talk, I will discuss some conditions that imply the double of a Gluck twist is standard, i.e., is diffeomorphic to the 4-sphere. This is based on joint work with Dave Gabai and Hannah Schwartz.