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On the Neumann and Reid conjecture concerning knots with hidden symmetries

A key property in the study of commensurability classes of hyperbolic 3-manifolds is the presence, or not, of hidden symmetries. Though commensurability classes of hyperbolic knot complements without hidden symmetries are reasonably well understood, the case of knots with hidden symmetries remains mysterious. Neumann and Reid have conjectured that the only hyperbolic knots in the 3-sphere which admit hidden symmetries are the figure-eight knot and the two dodecahedral knots of Aitchison and Rubinstein. In this talk, I will report on joint work with Michel Boileau, Radu Cebanu, and Genevieve Walsh where we study the conjecture in the context of hyperbolic knots whose commensurability class admits reflections.