

1023-57-1016

Shelly Harvey* (shelly@math.rice.edu), Department of Mathematics, Rice University, 6100 Main St., MS #136, Houston, TX 77005. *Knot Concordance and Blanchfield Duality*.

Recall that a knot K in $S^3 = \partial B^4$ is *slice* if K is the boundary of a (smooth or locally flat) disk embedded in B^4 . We investigate the family of Casson-Gordon-Gilmer knots $J_n(K)$ that depend on an initial knot K . It is easy to see that if K is slice then $J_n(K)$ is slice for all $n \geq 0$. It is believed that $J_n(K)$ is slice if and only if K is slice. All of these knots are algebraically slice. It was shown by Casson-Gordon-Gilmer in the 70s that for certain non-slice K , $J_1(K)$ was not slice. Gilmer also showed that certain examples of $J_n(K)$ were not ribbon for arbitrary n . In this talk, we will show that, for each $n \geq 0$, there is a constant C_n such that $J_n(K)$ is not slice if the integral of the Levine-Tristram signatures of K is larger than C_n . We will also discuss conditions that will guarantee that an iterated Bing Double of an algebraically slice knot is not slice. (Received September 24, 2006)