

1171-57-82

Sanjay L. Kumar* (sanjay_kumar@ucsb.edu). *Families of fundamental shadow links realized as links in the 3-sphere.*

In 2015, Chen and Yang conjectured and provided computational evidence that the asymptotics of the Turaev-Viro invariants of a hyperbolic 3-manifold evaluated at the root of unity $\exp(\frac{2\pi i}{r})$ have growth rates given by the hyperbolic volume. From the work of Belletti, Detcherry, Kalfagianni, and Yang, the conjecture has been proven for a large infinite family of hyperbolic links in connected sums of $S^1 \times S^2$ known as the fundamental shadow links. Through explicit homeomorphisms of the complements of the fundamental shadow links, I will construct new examples of links in S^3 which satisfy the conjecture. In particular, I will show specific infinite families of links obtained from the construction as well as present a method for augmenting an arbitrary link in S^3 such that the resulting link is hyperbolic with complement satisfying the conjecture. (Received August 08, 2021)