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Heather M Molle* (hmolle@math.uiowa.edu), Department of Mathematics, The University of Iowa, Iowa City, IA 52242. *The growth of the quantum hyperbolic invariants of the figure eight knot*. Preliminary report.

The quantum hyperbolic invariants of Baseilhac and Benedetti are based on a quantization of the dilogarithm. They give rise to invariants of decorated three manifolds with a hyperbolic structure, at levels N an odd counting number. In this talk we explore the growth of these invariants where the underlying manifold is the complement of the figure eight knot with the complete hyperbolic structure. We find that for certain choices of decoration, the invariants grow exponentially in N , where the growth rate is proportional to the volume of the complete hyperbolic structure. (Received September 16, 2008)