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**Francis Bonahon\*** (fbonahon@usc.edu), **Helen Wong** and **Tian Yang**. *Asymptotics of quantum invariants of surface diffeomorphisms*. Preliminary report.

The Kashaev-Murakami-Murakami Volume Conjecture asserts that, for a knot  $K$  in the 3-sphere  $S^3$ , the evaluation  $J_n^K(e^{\frac{2\pi i}{n}})$  of the  $n$ -th colored Jones polynomial of  $K$  at the root of unity  $e^{\frac{2\pi i}{n}}$  grows exponentially as  $n \rightarrow \infty$ , with exponential growth rate related to the hyperbolic volume  $\text{vol}(S^3 - K)$  of the knot complement. We will discuss a closely related conjecture for diffeomorphisms of surfaces, based on the representation theory of the quantum Teichmüller space and/or the Kauffman bracket skein algebra of the surface. We will present experimental evidence for this conjecture, and describe partial results in work in progress. (Received July 18, 2020)