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Jozef H. Przytycki* (przytyck@gwu.edu), George Washington University, 2115 G Street N/W, Washington, DC 20052. *Hochschild homology of Frobenius algebras via link diagrams; Khovanov homology.*

The Frobenius algebra of truncated polynomials $A_m = Z[x]/(x^m)$, $\Delta(1) = 1 \otimes x^{m-1} + x \otimes x^{m-2} + \dots x^{m-2} \otimes x + x^{m-1} \otimes 1$ plays an important role in the theory of Khovanov and Khovanov-Rozansky homology of links. For any Frobenius algebra and link diagram we define the homology theory and compare it with Hochschild homology of algebras and Khovanov homology of links. Our framework is based on homology of a functor from the category of a finite set. (Received July 30, 2007)