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Title: Revisiting the filtered circle.

Abstract:

This is a survey talk following the construction of the filtered circle, obtained in collaboration with Toen and Moulinos using the theory of affine stacks by Toen. We will see how to use it to establish the universal property of the HKR filtration in both positive and mixed characteristic and discuss some applications such as the description of HKR isomorphisms as exponential maps and the work of Moulinos explaining the origin of the Todd class in the GRR theorem.