

In 2007 Kaledin proved a geometric theorem of formality in families using as major tool a class that he associated to a differential graded algebra (or in general to an  $A$ -infinity algebra).

In this talk I will explain how this "Kaledin" class is defined, in which part of the Hochschild cohomology it lives and why its vanishing controls the formality. As an application of this theory I will sketch a proof of the conjecture formulated by Kaledin and Lehn in 2007 about the singularities of the moduli space of sheaves on a K3 surface. This last part is a work in progress with Manfred Lehn.