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*Azumaya spaces and deformation quantization.* Preliminary report.

In this talk I shall argue that in positive characteristic there is a strong similarity between deformation quantization (passing from the commutative algebra of functions on the cotangent bundle to the ring of differential operators) and non-commutative deformations in the sense of Azumaya spaces (spaces endowed with a sheaf of Azumaya algebras). As an application I shall sketch a proof of the classical Deligne-Illusie result about the degeneration of the Hodge-de Rham spectral sequence in positive characteristic. (Received August 10, 2015)