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An algebra of star-exponentials on complex symplectic manifolds

Abstract: At the beginning of the 70s, M. Sato, M. Kashiwara and T. Kawai have functorially constructed on the cotagent bundle of a complex manifold X the sheaf of micro differential operators $\mathcal{E}_{T^*X}$. The formal version of this construction provides a deformation quantization of $T*X$.
In the framework of formal deformation theory, the notion of star-exponential does not have any general definition, since it does not belong to the deformed algebra. In this talk, I will present a construction of a new sheaf of algebras $\mathcal{W}^t_{T^*X}$ (t is a commutative holomorphic parameter) on $T*X$.
It is an analytic deformation for which $\mathcal{E}_{T^*X}$ is a subalgebra and obtained by imposing growth conditions at infinity on a space of symbols. This new algebra contains the exponential of micro-differential operators of order 0 and hence gives a meaning to star-exponentials as symbols of operators. (Joint work with Pierre Schapira).