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Level zero p-adic microdifferentials

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In the seventies, Kashiwara, Kawai and Sato defined and studied the sheaf of microdifferential operators on the cotangent bundle of a complex manifold.

In this talk, we are concerned with the analogous constructions for a smooth p-adic formal curve, for a given prime number p. We will define a sheaf of microdifferentials on the cotangent bundle of such a curve, which extends Berthelot's sheaf of level zero differential operators. We aim to give a micro-local construction of the local Fourier transform for p-adic differential equations: we will give some partial results in this direction.