Subanalytic sheaves and exponential $\mathscr{D}$-modules

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Abstract

In [KS01], Masaki Kashiwara and the author introduced ind-sheaves and their six operations on locally compact spaces. On a subanalytic space X the ind-objects of the category of constructible sheaves are also the usual sheaves on the site X_{sa}, the presite X endowed with the Grothendieck subanalytic topology. When X is a manifold, this allows one to construct the sheaf $\mathscr{O}^{\mathrm{tp}}_{X_{\mathrm{sa}}}$ of holomorphic functions with temperate growth, as well as "its dual", the cosheaf $\mathscr{O}^{\mathrm{w}}_{X_{\mathrm{sa}}}$ of holomorphic functions with rapid decay.

After recalling these constructions, we shall study their applications to exponential $\mathscr{D}$-modules, based on an example treated in [KS03].

References

[KS01] Masaki Kashiwara and Pierre Schapira, *Ind-Sheaves*, Astérisque, vol. 271, Soc. Math. France, 2001. vi+136 pp.

[KS03] ———, *Microlocal study of ind-sheaves I: micro-support and regularity*, Astérisque **284** (2003), 143-164.