

D’Agnolo, Andrea; Kashiwara, Masaki

On a topological counterpart of regularization for holonomic \mathcal{D} -modules. (Sur un analogue topologique de la régularisation pour les \mathcal{D} -modules holonomes.) (English. French summary)

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Summary: On a complex manifold, the embedding of the category of regular holonomic \mathcal{D} -modules into that of holonomic \mathcal{D} -modules has a left quasi-inverse functor $\mathcal{M} \rightarrow \mathcal{M}_{\text{reg}}$, called regularization. Recall that \mathcal{M}_{reg} is reconstructed from the de Rham complex of \mathcal{M} by the regular Riemann-Hilbert correspondence. Similarly, on a topological space, the embedding of sheaves into enhanced ind-sheaves has a left quasi-inverse functor, called here sheafification. Regularization and sheafification are intertwined by the irregular Riemann-Hilbert correspondence. Here, we study some of the properties of the sheafification functor. In particular, we provide a stalk formula for the sheafification of enhanced specialization and microlocalization.

MSC:

32C38 Sheaves of differential operators and their modules, D -modules

14F10 Differentials and other special sheaves; D -modules; Bernstein-Sato ideals and polynomials

Keywords:

irregular Riemann-Hilbert correspondence; enhanced perverse sheaves; holonomic \mathcal{D} -modules

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