

# Temperate holomorphic solutions and regularity of holonomic D-modules on curves

Ana Rita Martins

The notion of microsupport was introduced for classical sheaves in 1982 by M. Kashiwara and P. Schapira. This notion appeared in the course of the study of analytical singularities of solutions of systems of differential equations and describes the directions of non propagation of these solutions. Motivated by the fact that various objects in Analysis cannot be treated with sheaf theoretical methods, such as functions with growth conditions, the category of sheaves on a real analytic manifold  $X$  was enlarged to the category of ind-sheaves on  $X$ . The definition of the notion of microsupport in this general setting also motivated the introduction of the notion of regularity of ind-sheaves. Our aim in this talk is to give an overview through the microlocal theory of ind-sheaves. In particular, we prove a Kashiwara and Schapira's Conjecture that relates the notion of regularity for holonomic D-modules and the notion of regularity for ind-sheaves, in the one-dimensional case.