PROPAGATION OF SINGULARITIES IN SUBELLIPTIC PDES

CYRIL LETROUIT

In this talk, we consider the wave equation where the Laplacian is replaced by a sub-Laplacian (also called "Hörmander sum of square"), which is an hypoelliptic operator. We handle the problem of describing the propagation of singularities in such equations : the main new phenomenon that we describe is that singularities can propagate along abnormal curves at any speed between 0 and 1. This general result extends a visionary paper by R. Melrose, and we then illustrate it on an example, the Martinet case, following a joint work with Y. Colin de Verdière. Our statements are part of a classical/quantum correspondance between sub-Riemannian geometry (on the classical side) and the hypoelliptic operator (on the quantum side).