



Cauchy Problem for Noneffectively Hyperbolic Operators

By Tatsuo Nishitani

Mathematical Society of Japan, Japan, United Kingdom, 2013. Paperback. Book Condition: New. 249 x 170 mm. Language: English . Brand New Book. At a double characteristic point of a differential operator with real characteristics, the linearization of the Hamilton vector field of the principal symbol is called the Hamilton map and according to either the Hamilton map has non-zero real eigenvalues or not, the operator is said to be effectively hyperbolic or noneffectively hyperbolic. For noneffectively hyperbolic operators, it was proved in the late of 1970s that for the Cauchy problem to be C^2 well posed the subprincipal symbol has to be real and bounded, in modulus, by the sum of modulus of pure imaginary eigenvalues of the Hamilton map. It has been recognized that what is crucial to the C^2 well-posedness is not only the Hamilton map but also the behavior of orbits of the Hamilton flow near the double characteristic manifold and the Hamilton map itself is not enough to determine completely the behavior of orbits of the flow. Strikingly enough, if there is an orbit of the Hamilton flow which lands tangentially on the double characteristic manifold then the Cauchy problem is not C^2 well posed even though the...



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