Wave front sets with respect to the iterates of an operator with constant coefficients

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The talk is based on the joint work with Chiara Boiti and Jordi Juan-Huguet

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We introduce the wave front set $WF_*^P(u)$ with respect to the iterates of a hypoelliptic linear partial differential operator with constant coefficients of a classical distribution $u \in \mathcal{D}'(\Omega)$ in an open set Ω in the setting of ultradifferentiable classes of Braun, Meise and Taylor. We state a version of the microlocal regularity theorem of Hörmander [2, Theorem 5.4] for this new type of wave front set and give some examples and applications of the former result.

This talk is based on the recently published paper [1].

References

[1] C. Boiti, D. Jornet, J. Juan-Huguet, *Wave front sets with respect to the iterates of an operator with constant coefficients*, Abstr. Appl. Anal. Volume 2014 (2014), Article ID 438716, 17 pages, http://dx.doi.org/10.1155/2014/438716

[2] L. Hörmander, *Uniqueness theorems and wave front sets for solutions of linear partial differential equations with analytic coefficients*, Comm. Pure Appl. Math. 24 (1971), 671–704.