**SEMINARI D'ANÀLISI UAB-UB** **Curs 2010–2011**

Dilluns 6 de juny del 2011, 15:00h

Facultat de Matemàtiques, U.B., Aula T2.

# Global Boundedness of Multilinear Fourier Integral Operators

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**ABSTRACT**: In this talk we will present our results on the study of the global boundedness of multilinear Fourier integral operators on Banach and quasi-Banach $L^p$ spaces, where the amplitudes of the operators are smooth or rough in the spatial variables.

The results are obtained by proving suitable global boundedness of rough linear Fourier integral operators with amplitudes that behave as $L^p$ functions in the spatial variables, and as an amplitude in the Hörmander class $S^m$ in the frequency variable. The bilinear boundedness estimates are proven by using either an iteration procedure or decomposition of the amplitudes, thereafter applying our global results for linear Fourier integral operators with rough amplitudes.

We will discuss the history of this problem, the ideas underlying the proof of the main result and some related further development on which we are currently working.

This is a joint work with Prof. Wolfgang Staubach [1].

## References

[1] S. Rodriguez, W. Staubach. Global boundedness of Multilinear Fourier Integral Operators. preprint available at http://garf.ub.es/MultilinearFIOs.pdf