On the global boundedness of Bilinear Fourier Integral Operators

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Abstract:

Fourier Integral Operators are a type of operators that naturally appear in the study of certain hyperbolic and elliptic PDEs as in the wave equation. Roughly speaking, these operators are given by

$$Tf(x) = \int_{\mathbf{R}^n} e^{i\phi(x,\xi)} a(x,\xi) \widehat{f}(\xi) \, d\xi,$$

where $\widehat{f}(\xi)$ stands for the Fourier transform of f, $a(x,\xi)$ is called an amplitude belonging to suitable symbol class, and ϕ is a real valued function homogeneous of degree one satisfying a non degeneracy condition.

In this talk, we will survey some concepts and classical results on L^p estimates for Fourier integral operators. We will also present some new results regarding the global boundedness of multilinear counterparts, and some open problems in the field.

Miercuri, 5 Decembrie 2012, ora 13:00 la sediul IMAR, amfiteatrul "Miron Nicolescu"