İSTANBUL ANALYSIS SEMINARS

CONVOLUTION OPERATORS ON SPACES OF REAL ANALYTIC FUNCTIONS

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Abstract: We will discuss surjectivity and existence of continuous linear right inverses for convolution operators on spaces of real analytic functions. Concerning surjectivity, a complete characterization is presented for partial differential operators and convolution operators of one variable, respectively. In the latter case also the existence of continuous linear right inverses can be characterized based on the existence of continuous linear decomposition operators for real analytic functions. In the proofs we constantly use the theory of hyperfunctions and Fourier hyperfunctions and useful tools from functional analysis such as the Proj^1-functor and tame splitting theory.

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