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FAKULTÄT
FÜR MATHEMATIK, INFORMATIK
UND NATURWISSENSCHAFTEN
Fachbereich Mathematik

Kolloquium über Mathematische Statistik und Stochastische Prozesse

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The Characterization of Malliavin Spaces via Entire Functions

Abstract:

The characterization theorem and its corollaries set the foundation of the success of white noise analysis in the recent 30 years. On different occasions the fathers of the characterization J. Potthoff and L. Streit were asked by P. Malliavin and P.-A. Meyer if such a characterization is also possible for the Malliavin-Watanabe Sobolev spaces. In this talk we present how we closed this gap and give a characterization of the Malliavin-Watanabe Sobolev spaces with the help of the Bargmann-Segal transform. The characterization can also be generalized to the non-Gaussian setting. Examples will showcase the regularity of different objects.

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