

INTERNATIONAL RESEARCH TRAINING GROUP

Stochastic Models of Complex Processes

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Speaker

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Title

A representation of the moment measures of the general ideal Bose gas

Abstract: We reconsider the fundamental work of Fichtner “On the position distribution of the ideal Bose gas” Math. Nachr. (1991) and exhibit the permanental structure of the ideal Bose gas again, using another approach which combines a characterization of infinitely divisible random measures (due to Kerstan, Kummer and Matthes and Mecke with a decomposition of the moment measures into its factorial measures due to Krickeberg. To be more precise, we exhibit the moment measures of all orders of the general ideal Bose gas in terms of certain ‘loop’ integrals.

Behind the notion of a general ideal Bose gas there is a class of infinitely divisible point processes of all orders with a Levy-measure belonging to some large class of measures containing the one of the classical ideal Bose gas considered by Fichtner.

The relations to permanental and determinantal point processes are outlined.

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