



Special lecture at Chebyshev Laboratory

Monday November 26 17:35 room 104 (14-th line, 29)



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Geometry of random smooth functions

In this talk I am going to give a gently introduction to the geometric theory of smooth Gaussian fields: random functions which are smooth with probability 1 and have normal distribution at each point. These functions are of considerable interest and appear in several areas of mathematics and physics. In 2001 physicists Bogomolny and Schmit conjectured that level lines of a particular field could be described by a percolation model. In the recent years it became apparent that this should be a rather general phenomenon and percolation gives a good description of a wide class of Gaussian fields.

I will introduce the basic properties of these random functions, explain the Bogomolny-Schmit conjecture and will talk about recent progress in this area.