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SIGNIFICANCE OF GAUSSIAN INTEGRAL

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Abstract

In this paper, we discuss the significance of Gaussian measures, which play a central role in many fields like probability theory, quantum mechanics and quantum field theory etc. Now the question arrives that, where does the density function of the normal distribution come from? We will discuss the same in details to show the significance of Gaussian integral and how it is motivated in mathematical physics.

Keywords: central limit theorem, probability distribution, heat equation, convolution etc.

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