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MSC: 60H15, 60G15, 35Q79

CONSTRUCTION OF MODELS IN THE FORM OF STOCHASTIC CAUCHY PROBLEMS¹

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Using the example of the construction of a mathematical model for the heat transfer process in a one-dimensional rod whose lateral surface is subject to random heat sources, we demonstrate the structure of random processes reflecting the stochastic influence in the proposed model. We obtain an abstract stochastic Cauchy problem in the Ito form for an equation with cylindrical Wiener process and for an equation with Brownian sheet.

Keywords: stochastic Cauchy problem, Brownian sheet, cylindrical Wiener process.

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