Random differential operational calculus: Theory and applications[1]

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A b s t r a c t

In this article, we obtain a product rule and a chain rule for mean square derivatives. An application of the chain rule to the mean square solution of random differential equations is shown. However, to achieve such mean square differentiation rules, fourth order properties were needed and, therefore, we first studied a mean fourth order differential and integral calculus. Results are applied to solve random linear variable coefficient differential problems.