

ON THE THEORY OF INFINITE SYSTEMS OF DIFFERENTIAL EQUATIONS AND THEIR APPLICATION TO THE THEORY OF STOCHASTIC PROCESSES AND THE PERTURBATION THEORY OF QUANTUM MECHANICS.

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Introduction.

In a previous paper¹ one of us has presented the theory of finite systems of simultaneous linear differential equations in such a form that it is formally independent of the dimension, i. e. the number of equations in the system. Formally the theory may, therefore, be immediately generalized to the case in which the dimension is enumerable infinite². Such infinite systems of differential

¹ Arley (1943) §§ 2.2–2.6 and chap. 7.
² The theory may even be generalized to the case in which the dimension is non-enumerable. We intend to give such a generalization in a later paper.