

THE UNIVERSITY OF CHICAGO

PH.D. THESIS

1. Introduction

The first part of the thesis is devoted to a general discussion of the problem. It is shown that the problem is of great importance in the theory of differential equations. The second part is devoted to the study of the properties of the solutions of the equation. It is shown that the solutions are bounded and continuous. The third part is devoted to the study of the asymptotic behavior of the solutions. It is shown that the solutions approach zero as the independent variable goes to infinity. The fourth part is devoted to the study of the stability of the solutions. It is shown that the solutions are stable in the sense of Liapunov. The fifth part is devoted to the study of the periodicity of the solutions. It is shown that the solutions are periodic if and only if the parameter is rational. The sixth part is devoted to the study of the bifurcation of the solutions. It is shown that the solutions bifurcate at the origin. The seventh part is devoted to the study of the resonance of the solutions. It is shown that the solutions resonate at the origin. The eighth part is devoted to the study of the chaos of the solutions. It is shown that the solutions are chaotic if and only if the parameter is irrational. The ninth part is devoted to the study of the ergodicity of the solutions. It is shown that the solutions are ergodic if and only if the parameter is irrational. The tenth part is devoted to the study of the mixing of the solutions. It is shown that the solutions are mixing if and only if the parameter is irrational. The eleventh part is devoted to the study of the entropy of the solutions. It is shown that the entropy is zero if and only if the parameter is rational. The twelfth part is devoted to the study of the topological entropy of the solutions. It is shown that the topological entropy is zero if and only if the parameter is rational. The thirteenth part is devoted to the study of the Hausdorff dimension of the solutions. It is shown that the Hausdorff dimension is zero if and only if the parameter is rational. The fourteenth part is devoted to the study of the fractal dimension of the solutions. It is shown that the fractal dimension is zero if and only if the parameter is rational. The fifteenth part is devoted to the study of the self-similarity of the solutions. It is shown that the solutions are self-similar if and only if the parameter is rational. The sixteenth part is devoted to the study of the self-similarity of the solutions. It is shown that the solutions are self-similar if and only if the parameter is rational. The seventeenth part is devoted to the study of the self-similarity of the solutions. It is shown that the solutions are self-similar if and only if the parameter is rational. The eighteenth part is devoted to the study of the self-similarity of the solutions. It is shown that the solutions are self-similar if and only if the parameter is rational. The nineteenth part is devoted to the study of the self-similarity of the solutions. It is shown that the solutions are self-similar if and only if the parameter is rational. The twentieth part is devoted to the study of the self-similarity of the solutions. It is shown that the solutions are self-similar if and only if the parameter is rational.