SPECIFICATION PROPERTIES
FOR NON-AUTONOMOUS DISCRETE SYSTEMS

Mohammad Salman — Ruchi Das

ABSTRACT. In this paper notions of strong specification property and quasi-weak specification property for non-autonomous discrete systems are introduced and studied. It is shown that these properties are dynamical properties and are preserved under finite product. It is proved that a k-periodic non-autonomous system on intervals having weak specification is Devaney chaotic. Moreover, it is shown that if the system has strong specification then the result is true in general. Specification properties of induced systems on hyperspaces and probability measures spaces are also studied. Examples/counterexamples are provided wherever necessary to support results obtained.

1. Introduction

Dynamical system is a very well developed branch of mathematics. In its contemporary formulation, the theory grows directly from advances in understanding complex and nonlinear systems in physics and mathematics. Over the last 40 years with the discovery of chaos lots of research has been done in autonomous dynamical systems. The first paper that described chaos in a mathematically rigorous way is that of Li and Yorke [10]. Since then the research on chaos has had a great influence on modern science. Specification property