

NONUNIFORM POLYNOMIAL DICHOTOMY WITH LYAPUNOV TYPE NORMS*

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Dedicated to Dr. Vasile Drăgan on the occasion of his 70th anniversary

Abstract

The paper considers a general concept of polynomial dichotomy which includes as particular cases some well-known dichotomy concepts. The main objective is to obtain some characterizations of the nonuniform polynomial dichotomy behavior with respect to a family of norms compatible with the projection families.

MSC: 34D05, 34D09

keywords: Nonuniform polynomial dichotomy, evolution operators, Lyapunov type norms.

1 Introduction

In the literature devoted to dynamical systems and evolution equations, the uniform exponential dichotomy concept introduced by O. Perron [10] is considered one of the most important asymptotic properties. However, there are some cases, such as the nonautonomous settings, where this concept is

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