

# ON SOME CONCEPTS OF $(h, k)$ -SPLITTING FOR SKEW-EVOLUTION SEMIFLOWS IN BANACH SPACES\*

Claudia Luminița Mihiț<sup>†</sup>    Diana Borlea<sup>‡</sup>    Mihail Megan<sup>§</sup>

## Abstract

The paper treats some concepts of  $(h, k)$ -splitting for the general case of skew-evolution semiflows in Banach spaces. We obtain characterizations for these notions, as well as connections between them. As particular case, we emphasize the results for the corresponding properties of  $(h, k)$ -trichotomy.

MSC: 34D05, 34D09

**keywords:** Skew-evolution semiflows,  $(h, k)$ -splitting,  $(h, k)$ -trichotomy

## 1 Introduction

The qualitative theory of the asymptotic behaviors of dynamical systems is a prolific research area, with an important development in the last years.

---

\*Accepted for publication on August 18-th, 2017

<sup>†</sup>[mihit.claudia@yahoo.com](mailto:mihit.claudia@yahoo.com), Departament of Mathematics, Faculty of Mathematics and Computer Science, West University of Timișoara, V. Pârvan Blv. No. 4, 300223 Timișoara, Romania

<sup>‡</sup>[dianab268@yahoo.com](mailto:dianab268@yahoo.com), Departament of Mathematics, Faculty of Mathematics and Computer Science, West University of Timișoara, V. Pârvan Blv. No. 4, 300223 Timișoara, Romania

<sup>§</sup>[megan@math.uvt.ro](mailto:megan@math.uvt.ro), Academy of Romanian Scientists, Independenței 54, 050094 Bucharest, Romania