Old and New in Differential Inclusions with One-Sided Lipschitz Right-Hand Sides

Elza Farkhi

The talk surveys old and new results on stability and approximation of solutions of differential inclusions and their discrete approximations. We focus our attention on stability properties of the solutions of perturbed differential and difference inclusions that are preserved when extending the class of Lipschitz right-hand sides to some wider classes as the one of One-Sided Lipschitz (OSL) multifunctions. We discuss Filippov-type theorems for the differential and difference inclusions. For right-hand sides satisfying a strengthened OSL condition we present stronger Filippov-type stability theorems.