

BASIC RESULTS FOR FUZZY IMPULSIVE DIFFERENTIAL EQUATIONS

V. LAKSHMIKANTHAM AND FARZANA A. MCRAE

Abstract. The basic theory of fuzzy impulsive differential equations is initiated by combining suitably the theories of impulsive differential equations and fuzzy differential equations.

Mathematics subject classification (2000): 34A47, 34D20, 34L99.

Key words and phrases: Fuzzy impulsive differential equations, basic theory.

REFERENCES

- [1] DRIANKOV, D., HELLENDORF, H. AND REINFRANK, M., *An Introduction to Fuzzy Control*, Springer Verlag, 1996.
- [2] DUBOIS, D. AND PRADE, H., *Towards fuzzy differential calculus, Part I*, Fuzzy Sets and Sys. **8** (1982), 1–17.
- [3] DUBOIS, D. AND PRADE, H., *Towards fuzzy differential calculus, Part II*, Fuzzy Sets and Sys. **8** (1982), 105–116.
- [4] DUBOIS, D. AND PRADE, H., *Towards fuzzy differential calculus, Part III*, Fuzzy Sets and Sys. **8** (1982), 225–234.
- [5] KALEVA, O., *Fuzzy differential equations*, Fuzzy Sets and Sys. **24** (1987), 301–317.
- [6] KALEVA, O., *The Cauchy problem for fuzzy differential equations*, Fuzzy Sets and Sys. **35** (1990), 389–396.
- [7] KLOEDEN, P. E., *Remarks on Peano-like theorems for fuzzy differential equations*, Fuzzy Sets and Sys. **44** (1991), 161–163.
- [8] LAKSHMIKANTHAM, V. AND LEELA, S., *Stability theory for fuzzy differential equations via differential inequalities*, Math. Ineq. and Appl. **2** (1999), 551–559.
- [9] LAKSHMIKANTHAM, V., BAINOV, D. D. AND SIMEONOV, P. S., *Theory of Impulsive Differential Equations*, World Scientific, Singapore, 1989.
- [10] LAKSHMIKANTHAM, V. AND MOHAPATRA, R. N., *Basic properties of solutions of fuzzy differential equations*, Fuzzy Sets and Sys. (to appear).
- [11] NIETO, J. J., *The Cauchy problem for fuzzy differential equations*, Fuzzy Sets and Sys. (to appear).
- [12] NOVAK, *Fuzzy Sets and Their Applications*, Adam Hilger, Bristol, 1988.