

NEUTRAL FRACTIONAL DIFFERENTIAL EQUATIONS WITH
IMPULSES AT VARIABLE TIMES

Hilmi ERGÖREN¹

Yuzuncu Yil University, Van, TURKEY

MSC 2000: 26A33, 34A08, 34A37

Abstract

As known, impulsive functional differential equations of integer order with fixed and variable moments and the ones of fractional order with fixed moments take place in the related literature many times (see for instance [1, 2]). However, to the best of our knowledge, the ones of fractional order with variable moments have not been considered yet. In this study, we extend the results of Benchohra and Ouahab [3] having an integer-order impulsive neutral-delay differential equations with variable moments to the fractional order ones.

Keywords: Fractional differential equation, Caputo fractional derivative, impulses, variable times.

References

- [1] M. Benchohra, J. Henderson, S. K. Ntouyas, A. Ouahab, *Impulsive functional differential equations with variable times*, Comput. Math. Appl. **47** (2004): 1659–1665.
- [2] Anguraj, A., Ranjini, M. C., *Existence results for fractional impulsive neutral functional differential equations*, JFCA **3** (4) (2012): 1–12.
- [3] M. Benchohra, A. Ouahab, *Impulsive neutral functional differential equations with variable times*, Nonlinear Anal. **55** (2003): 679–693.

¹e-mail:hergoren@yahoo.com