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REMARKS ON THE PAPER "EXISTENCE RESULTS FOR A CLASS OF FRACTIONAL ORDER BOUNDARY VALUE PROBLEMS WITH INTEGRABLE IMPULSES", *Dyn. Cont., Discr. Imp. Sys., Ser. A: Math. Anal.*, 25 (2018) 267-285

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Abstract. The aim of this paper is to correct (and extend) the formula for the solution and the sufficient conditions for existence and uniqueness given in the paper "Existence results for a class of fractional order boundary value problems with integrable impulses", *Dyn. Cont., Discr. Imp. Sys., Ser. A: Math. Anal.*, **25** (2018) 267-285. We will consider both known approaches in the literature in the interpretation of solutions of fractional equations with impulses i.e. the case of an unchangeable lower limit of the Caputo fractional derivatives over the whole interval of study and the case of changed lower limits at each time point of jump are both considered. We study both cases since in the above cited paper it is not clear which one is used. The formula for solutions and existence results are provided for both approaches in the literature to non-instantaneous impulsive fractional differential equations.

Keywords. Caputo fractional differential equations, delays, non-instantaneous impulses, existence.

AMS (MOS) subject classification: 34A08, 34A37.

1. Statement of the problem

Let the points $t_i, s_i \in [0, 2\pi]$: $s_0 = 0, t_{k+1} = 2\pi, 0 < t_i < s_i < t_{i+1}, i = 1, 2, \dots, k$ be given. Consider the space $PC_0 = C([-d, 0], X)$ endowed with the norm $||y||_{PC_0} = \sup_{t\in[-d,0]}\{||y(t)||_X : \ y \in PC_0\}$; here X is a Banach space. Let $\mathcal{PC} = PC^1([-d, 2\pi], X)$ be a Banach space of all functions $y : [-d, 2\pi] \to X$ which are continuously differentiable on $[0, 2\pi]$ except for a finite number of points $t_i \in (0, 2\pi)$ at which $y(t_i+)$, $y'(t_i+)$