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Erratum to: "Existence of Solutions to Some Classes of Partial Fractional Differential Equations"

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Abstract

While the main result in Diagana [1] still holds when A is a bounded operator on $\mathbb{X}$, this is no longer the case when A is unbounded on $\mathbb{X}$.

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First of all, let us notice that the extrapolation operator A_{-1} considered in Diagana [1] is bounded from $\mathbb{X}_{-1}$ into itself if and only if A is a bounded linear operator on the Banach space $\mathbb{X}$. It is also clear that the proof of the main result in [1], that is, [1, Theorem 3.2] is valid only if A_{-1} is bounded from $\mathbb{X}_{-1}$ into itself. We therefore deduce that [1, Theorem 3.2] holds only if A is a bounded linear operator on $\mathbb{X}$ (and hence B and C, too.) In that case, the example given there is worthless unless the domain of $A = \Delta$ is taken to be the whole space $C(\overline{\Omega})$.

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References

[1] Toka Diagana. Existence of solutions to some classes of partial fractional differential equations. *Nonlinear Anal.*, 71(11):5296–5300, 2009.