1163-34-122   **Jeffrey W Lyons*** (`jlyons3@citadel.edu`), **Paul Eloe** and **Jeffrey T. Neugebauer**.
Differentiation of Solutions of Caputo Initial Value Problems with respect to Initial Data.

Let $n \in \mathbb{N}$. In this paper, the authors consider the solution of an initial value problem of a Caputo fractional differential equation of order $\alpha \in (n-1, n)$. This solution is differentiated with respect to the initial time and with respect to the initial conditions. The differentiated solution is shown to solve an associated Caputo variational equation with interesting initial conditions. (Received August 18, 2020)

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