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Abel's continuity theorem revisited.

Let a be a summable sequence and f be the function on $[0, 1]$ whose sequence of Maclaurin series coefficients is a . Let r denote the remainder operator associating with each summable sequence a its sequence of remainders as described by J. Migda in [iterated remainder operator,—, Adv. In Difference Equations, (2014), 2014:189, 1-18]. A relationship is described between the existence of higher iterates of r applied to a and the existence, and continuity, of higher order derivatives of f on $[0,1]$. Abel's Continuity Theorem is seen to be an initial instance of this relationship. (Received January 23, 2019)