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TRIGONOMETRIC COMMUTATIVE CONFORMABLE FRACTIONAL KOROVKIN PROPERTIES FOR STOCHASTIC PROCESSES

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Abstract. Here we research from the trigonometric point of view expectation commutative stochastic positive linear operators acting on L^1-continuous stochastic processes which are Conformable fractional differentiable. Under some mild, general and natural assumptions on the stochastic processes we produce related trigonometric Conformable fractional stochastic Shisha-Mond type inequalities pointwise and uniform. All convergences are produced with rates and are given by the trigonometric Conformable fractional stochastic inequalities involving the first modulus of continuity of the expectation of the α-th right and left Conformable fractional derivatives of the engaged stochastic process, $\alpha \in (n, n+1)$, $n \in \mathbb{Z}_+$. The amazing fact here is that the basic non-stochastic real Korovkin test functions assumptions imply the conclusions of our trigonometric Conformable fractional stochastic Korovkin theory. We include also a detailed trigonometric application to stochastic Bernstein operators.

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