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George Anastassiou and **Merve Kester***, University of Memphis, Department of Mathematical Sciences, Memphis, TN 38152. *Quantitative Approximation by Fractional Generalized Discrete Singular Operators*. Preliminary report.

In this article, we study the fractional generalized smooth discrete singular operators on the real line, the univariate and non-univariate cases, regarding their convergence to the unit operator with fractional rates in the uniform norm. The related established inequalities involve the higher order moduli of smoothness of associated right and left Caputo fractional derivatives of engaged function. Furthermore we produce fractional Voronovskaya type results giving the fractional asymptotic expansion of the basic error of our approximation. We give applications and show that our operators are not in general positive. (Received June 04, 2014)