1167-47-39 **Anatoly N. Kochubei*** (`anatoly_kochubei@yahoo.com`), Anatoly N. Kochubei, Institute of Mathematics, Tereshchenkivska 3, Kyiv, 01024, Ukraine. *Non-Archimedean Radial Calculus.*

We consider a restriction of Vladimirov's fractional differentiation operator to radial functions on a non-Archimedean field.The resulting operator possesses such a right inverse that the appropriate change of variables reduces equations with fractional differentiation (for radial functions) to integral equations whose properties resemble those of classical Volterra equations. In other words, we found, in the framework of non-Archimedean pseudo-differential operators, a counterpart of ordinary differential equations. We begin an operator-theoretic investigation of the above operator of Volterra type, and study a related analog of the Laplace transform. (Received February 08, 2021)