1154-VN-580 Imad A Jaradat* (iajaradat@just.edu.jo), Department of Mathematics & Statistics, Jordan University of Science and Technology, P.O.Box 3030, Irbid, 22110, Jordan, and Marwan T Alquran (marwan04@just.edu.jo), Department of Mathematics & Statistics, Jordan University of Science and Technology, P.O.Box 3030, Irbid, 22110. Taylor series in higher dimensional fractal space.

The primary goal of our project is to provide an analytical handling of partial differential equations exhibited entirely in a fractional derivative sense (FPDE). In this regard, the bivariate Taylor series expansion has been modified and incorporated with the celebrated differential transform idea. In light of this, the FPDE is transformed into a difference equation which can be resolved by dint of a successive iteration pattern. The integer projection of the obtained series solutions of such hybrid equations match with their well-known corresponding solutions of the classical versions. This displays the PDEs in a more generalized form. Finally, we provide a graphical visualization to illustrate the role of the fractional derivative parameters which they are acting as homotopy parameters in the usual meaning. (Received September 07, 2019)