Deep Assessment Methodology Using Fractional Calculus on Mathematical Modeling and Prediction of Population of Countries

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Abstract

The modelling of data and prediction for the upcoming years or events are one of the main concerns of not only all countries but also companies, investors, manufacturers, and institutions. The scientists investigate on a relation among telecommunication, economic growth, and financial development using technical, economic, social events and data. Besides, the population changes affect balances in any aspect. Therefore, the prediction of the population for each country is prominent and essential for the other prediction. In this study, the dataset consists of the populations of the USA, France, Britain, Italy, Spain, and Turkey were used from 1960 until 2018. In our study, populations of countries are tried to be modelled, and the predictions are made for the upcoming years, using fractional calculus. The newly developed approach uses the data for the modelling by employing Least Squares method and fractional calculus.

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