

A review of some fractional lessons

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Resumen

Reality rarely adapts to our expectations and, for this reasons, the interpretation of this rare reality supposes a constant effort for adjusting our models to real data and we must not try that the reality fits to conventional models. In this context, Fractional Calculus appears with the objective to generalize the concepts of ordinary integral and derivative to non integer orders, and then, these fractional operators can be an useful tool to model real processes through the develop of fractional differential equations and fractional partial differential equations.

We will make a review of some concepts and applications of the Fractional Calculus to model different real processes, such as for instance, the use of fractional differential equations in dynamic of populations, the new scenarios of properties that appear when we consider some fractional partial differential equations, or the application of the fractional diffusion to model the Mars atmosphere.