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Fractional Calculus As A Modelling Framework

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SUMMARY

The Fractional Calculus represents a natural instrument to model nonlocal phenomena either in space or time. From Physics and Chemistry to Biology, there are many processes that involve different space /time scales. In many cases, the dynamics of such systems can be formulated by fractional differential equations which include the nonlocal effects. We give a panoramic view of the problem and the associated numerical challenges.

Keywords: Fractional Calculus, dynamics of nonlocal phenomena

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