

Nonlocality and fractional calculus: Finding the best kernel

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Fractional calculus deals with the study of so-called fractional order integral and derivative operators over real or complex domains, and their applications. During the last decades, the fractional differentiation has drawn increasing attention in the study of so-called anomalous behaviors, where scaling power law of fractional order appears universal as an empirical description of such complex phenomena [1, 2]. In my talk, for a given real world models, I will present and compare the importance of singular and nonsingular kernels in capturing the non-local effects. A special attention will be devoted to the Mittag-Leffler kernels [3].

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References

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