Functional Analysis, Mathematical Physics, and Dynamical Systems (FAMPDS)

Joint American-Ukrainian Virtual Colloquium Series Spring 2021

Talk 6: Fractal Analysis of Singular, Nowhere Differentiable, and Nowhere Monotonic Functions

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Abstract

We give an overview of research topics at the Department of Dynamical Systems and Fractal Analysis. In particular, various systems of encoding (representation) for real numbers with finite and infinite alphabet are discussed. We use these systems for analytical definition and studying some mathematical objects with complicated local structure. Singular probability distribution functions, nowhere differentiable functions, and nowhere monotonic functions are among them. We study fractal properties of such functions, i.e., fractal properties of their level sets, graphs, and other related sets.

Friday, April 16, 10:00-11:00 AM (PDT), 20:00-21:00 (EET)

Online via Zoom at

https://fresnostate.zoom.us/j/5233106532