

The Takagi Function and Related Functions

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Abstract

The Takagi function is a continuous, everywhere nondifferentiable function on $[0, 1]$ constructed by Teiji Takagi in 1903. Although constructed as an example in analysis, the Takagi function has since shown up in number theory, probability theory, dynamical systems, and fractals. This talk surveys some of these connections, compares it with some other functions with related constructions, and describes some recent results on its properties. The latter concern its level sets, and report on joint work with Z. Maddock.