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Pieter C Allaart* (allaart@unt.edu), Mathematics Department, 1155 Union Cir #311430,
Denton, TX 76203-5017. *Differentiability and Hölder regularity of a class of self-affine functions.*

In 1973, P. Lax published a surprising theorem about the differentiability of Pólya's space-filling curve. In 2006, H. Okamoto introduced a very different one-parameter family of functions, whose differentiability structure is nonetheless quite similar to that of the Pólya curve. In this talk I will introduce a large class of self-affine functions that includes both of the above examples. I will present a common generalization of Lax' and Okamoto's theorems, and give the pointwise Hölder (or multifractal) spectrum of functions in this class. (Received June 29, 2017)