ON FAIR ENTROPY OF THE TENT FAMILY

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Abstract：The notions of fair measure and fair entropy were introduced by Misiurewicz and Rodrigues recently, and discussed in detail for piecewise monotone interval maps. In particular, they showed that the fair entropy $h(a)$ of the tent map f_a with slope a, as a function of the parameter a, is continuous and strictly increasing on $[\sqrt{2},2]$. In this talk, we give a precise characterization of the regularity of the function h . We show that h is $\frac{1}{2}$-Holder continuous on $[\sqrt{2},2]$ and identify its best Holder exponent on each subinterval of $[\sqrt{2},2]$. On the other hand, we establish a formula of pointwise Holder exponents of h at parameters chosen in a set of full Lebesgue measure, which particularly implies that the derivative of h vanishes almost everywhere. This is a joint work with Bing Gao.