

## Hausdorff dimension of the graphs of the classical Weierstrass functions

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### **Abstract:**

We prove that the graph of the Weierstrass function  $W(x) = \sum_{n=0}^{\infty} b^{-n\alpha} \cos(2\pi b^n x)$  has Hausdorff dimension  $2 - \alpha$  for every integer  $b \geq 2$  and  $0 < \alpha < 1$ . We establish absolute continuity of the SRB measure for the associated solenoidal attractor by modifying an argument of Tsujii and then apply a result of Ledrappier.