ABSTRACTS

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Resurrection of KAM Tori

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We have studied the behavior of KAM tori in a class of nonanalytic twist maps in which the nonlinear function is endowed with a varying degree of inflection z. Many novel features have been discovered. Reappearance of KAM tori has been observed for $z > 3$. An "inverse residue criterion" is introduced to determine the reappearance point. We have also studied the scaling behavior at the disappearance and reappearance points. The scaling exponent are found to vary with z for $2 < z < 3$, but are independent for z for $z \geq 3$.

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