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Zachary Flores* (floresza@msu.edu), 2795 Lamoreaux LN, Holt, MI 48842, and **Oumarou Njoya**. *On the Dynamics of Non-Linear Tent-Maps*. Preliminary report.

Consider a family of non-linear tent maps defined by $F(x) = cx^b$ if $0 \leq x < 1/2$ and $F(x) = a(1 - x^b)$ if $1/2 \leq x < 1$. Here a, b, c are real parameters. By finding conditions on a, b , and c , we explore dynamic properties of F that arise under continuous iteration. We present results about the existence and nature of fixed points and cycle points. We will also investigate chaotic behaviors of F using graphical means (such as bifurcation diagrams and density graphs) and numerical studies (using Lyapunov exponents). Connections between the dynamics of F and fractal sets will be discussed. (Received September 16, 2008)