Research on 3-periodic Points for the Generalized Tent Maps

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In this paper, we investigate the generalized tent maps, whose vertex, left endpoint and right endpoint are (a, b), (0, s) and (1,c) respectively, where 0<a<1, 0<b<=1, 0<=<1 and 0<=s<1. According to the Li-York theorem, the core of my research is that under the following different situations, we give the conditions for the existence of 3-periodic points and the number of 3-periodic points for the generalized tent maps, and which three of the 3-periodic points for f are determined to form a periodic orbit. From the easy cases to difficult cases, we firstly consider the three cases that the left endpoint and the right endpoint of the maps are (0,0) and (1,c) separately, the vertex is (1/2,1), (a,1) or (1/2,b) separately. Lastly, we investigate the cases that the vertex, left endpoint and right endpoint are (a, b), (0, s) and (1,c) separately, where 0<a<1, 0<b<=1, 0<=c<1 and 0<=s<1.