A LASOTA – YORKE TYPE INEQUALITY FOR POSITION DEPENDENT RANDOM MAPS OF ONE DIMENSIONAL PIECEWISE EXPANDING $C^{1,1}$ TRANSFORMATIONS

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Abstract. We consider position dependent random maps of piecewise expanding $C^{1,1}$ transformations on $[0,1]$ into itself and prove a stronger Lasota–Yorke type inequality. We prove the existence of absolutely continuous invariant measures for position dependent random maps using the stronger Lasota–Yorke inequality. Our results are generalization of results of Eslami and Góra in [3] of single piecewise expanding $C^{1,1}$ maps to results of position dependent random maps.

Keywords. Position dependent random random maps; Lasota–Yorke type inequality; The Frobenius–Perron operator; Absolutely continuous invariant measures; Piecewise expanding $C^{1,1}$ transformations;

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References


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