

# Dimension spectrum for a nonconventional ergodic average

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We compute the dimension spectrum of certain nonconventional averages, namely, the Hausdorff dimension of the set of  $0,1$  sequences, for which the frequency of the pattern  $11$  in positions  $k, 2k$  equals a given number  $\theta \in [0, 1]$ .

Comments: 11 pages, 1 figure; revision after the referee report (some proofs are shorter), to appear in Real Analysis Exchange

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