

GENERALISATION OF THE GENERAL KAC'S LEMMA AND CLUSTERING

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Kac's famous Lemma establishes that the mean return time of an observable equals the reciprocal of its measure for stationary ergodic systems. We generalize to the case when the initial condition is that of leaving the state. Alternatively and more interesting reading corresponds to the length of a cluster once it begins. We show that it is equal to the reciprocal of the exit probability. This includes yet periodic and stretching clusters. This is a joint work with Ana Cristina Freitas and Jorge Freitas, from University of Porto.