A multifractal mass transfence principle and the structure of a typical sequence

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Let μ be a Gibbs measure of the doubling map T of the circle. A (deterministic) mass transference principle is obtained for such a Gibbs measure which is in general multifractal. More precisely, for a given sequence of decreasing intervals the knowledge of the Hausdorff-Billinglsey dimension of the limsup-set gives you the information of the Hausdorff dimension of the limsup-set with scaled radii. Such a principle was shown by Beresnevich and Velani only for mono-fractal measures. For a given deterministic sequence it is in general hard to check the assumption of the principle. However, we will show that a typical sequence for the measure fulfills the assumptions of the mass transference principle. In the symbolic language we completely describe the combinatorial structure of a typical relatively short sequence, In particular we can describe the occurrence of "atypical" relatively long words. Our results have a direct and deep number-theoretical interpretation via inhomogeneous dyadic Diophantine approximation by numbers belonging to a typical orbit.