ON THE DIMENSIONS OF CERTAIN INCOMMENSURABLY CONSTRUCTED SETS

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Abstract. It is known that the Hausdorff dimension of the invariant set Λ_t of an iterated function system $\mathcal{F}_t$ on $\mathbb{R}^n$ depending smoothly on a parameter t varies lower-semicontinuously, but not necessarily continuously. For a specific family of systems we investigate numerically the conjecture that discontinuities in the dimension only arise when in some iterate of the iterated function system two or more branches coincide. This happens in a dense set of codimension one. All other points are conjectured to be points of continuity.