

**Title:** Hausdorff dimension of level sets in Engel continued fraction

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Let  $[[b_1(x), \dots, b_n(x), \dots]]$  be the Engel continued fraction expansion of  $x \in (0, 1)$ . This paper is concerned with the growth of the partial quotients  $b_n(x)$ . We obtain the Hausdorff dimension of the sets

$$E_\phi = \left\{ x \in (0, 1) : \lim_{n \rightarrow \infty} \frac{\log b_n(x)}{\phi(n)} = 1 \right\},$$

for any non-decreasing  $\phi$  satisfying  $\lim_{n \rightarrow \infty} (\phi(n+1) - \phi(n)) = \infty$  and  $\lim_{n \rightarrow \infty} \phi(n+1)/\phi(n) = 1$ .

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