L. Baribeau, D. Brunet, T. Ransford and J. Rostand, **Iterated function systems, capacity and Green's functions**, *Comput. Methods Funct. Theory*, 4 (2004), No. 1, 47–58.

Abstract

Let $f_1, \dots, f_m : \mathbb{C} \to \mathbb{C}$ be maps satisfying

$$a_j|z-w| \le |f_j(z) - f_j(w)| \le b_j|z-w| \qquad (z, w \in \mathbb{C},\ j = 1, \dots, m),$$

where $0 < a_j \le b_j < 1$ $(j = 1, \dots, m)$. Let E be the attractor of this iterated function system, namely the unique compact subset of $\mathbb{C}$ satisfying $E = \cup_1^m f_j(E)$. Assume that E does not reduce to a singleton (i.e. that the maps f_j have no common fixed point).

We give a lower bound for the logarithmic capacity $c(E)$ of E in terms of the diameter $\mathrm{diam}(E)$ and the constants $a_1, \dots, a_m, b_1, \dots, b_m$. We further prove that

$$c\big(E \cap \overline{D}(w, r)\big) \ge Cr^\alpha \qquad (w \in E,\ 0 < r \le \mathrm{diam}(E)),$$

where $C > 0$ and $\alpha = \max_j(\log a_j / \log b_j)$, and deduce that E is non-thin at every point of itself. Finally, in the case where $a_j = b_j$ for each j (so all the f_j are similarities), we give a simple proof that the Green's function of E is Hölder continuous, and obtain estimates for the exponent of Hölder continuity.