



On the dynamics of a family of generated renormalization transformations

Submitted by claire.leroy on Mon, 04/27/2015 - 09:56

| | |
|-----------------------|--|
| Titre | On the dynamics of a family of generated renormalization transformations |
| Type de publication | Article de revue |
| Auteur | Yang, Fei [1], Zeng, Jinsong [2] |
| Editeur | Elsevier |
| Type | Article scientifique dans une revue à comité de lecture |
| Année | 2014 |
| Langue | Anglais |
| Date | Mai 2014 |
| Numéro | 1 |
| Pagination | 361-377 |
| Volume | 413 |
| Titre de la revue | Journal of Mathematical Analysis and Applications |
| ISSN | 0022-247X |
| Mots-clés | Hausdorff dimension [3], Julia sets [4], renormalization transformations [5] |
| Résumé en anglais | We study the family of renormalization transformations of the generalized d - dimensional diamond hierarchical Potts model in statistical mechanic and prove that their Julia sets and non-escaping loci are always connected, where $d \geq 2$. In particular, we prove that their Julia sets can never be a Sierpiński carpet if the parameter is real. We show that the Julia set is a quasicircle if and only if the parameter lies in the unbounded capture domain of these models. Moreover, the asymptotic formula of the Hausdorff dimension of the Julia set is calculated as the parameter tends to infinity. |
| URL de la notice | http://okina.univ-angers.fr/publications/ua10368 [6] |
| DOI | 10.1016/j.jmaa.2013.11.068 [7] |
| Lien vers le document | http://linkinghub.elsevier.com/retrieve/pii/S0022247X13010822 [8] |
| Titre abrégé | JMAA |

Liens

[1] [http://okina.univ-angers.fr/publications?f\[author\]=18224](http://okina.univ-angers.fr/publications?f[author]=18224)

[2] <http://okina.univ-angers.fr/jinszeng/publications>

[3] [http://okina.univ-angers.fr/publications?f\[keyword\]=16311](http://okina.univ-angers.fr/publications?f[keyword]=16311)

[4] [http://okina.univ-angers.fr/publications?f\[keyword\]=16309](http://okina.univ-angers.fr/publications?f[keyword]=16309)

[5] [http://okina.univ-angers.fr/publications?f\[keyword\]=16310](http://okina.univ-angers.fr/publications?f[keyword]=16310)

[6] <http://okina.univ-angers.fr/publications/ua10368>

[7] <http://dx.doi.org/10.1016/j.jmaa.2013.11.068>

[8] <http://linkinghub.elsevier.com/retrieve/pii/S0022247X13010822>

Publié sur *Okina* (<http://okina.univ-angers.fr>)