Fractal Growth Patterns and Iterated Conformal Maps

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In two hours I propose to set up the method of iterated conformal maps for the purpose of understanding fractal growth patterns. I will explain how to achieve a converged calculation of the fractal dimension of Diffusion Limited Aggregation, and how to establish that Laplacian Growth patterns are in a different universality class, being actually 2-dimensional asymptotically. If time permits I can also talk about fracture patterns, in which the basic equation is bi-Laplace rather than Laplace. If there is time and interest I can also explain how to achieve converged calculations of multifractal properties like the $f(\alpha)$ curve for the harmonic measure of DLA.

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