

## Random iteration of analytic maps

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Abstract

We consider analytic maps  $f_j : D \rightarrow D$  of a domain  $D$  into itself and ask when the sequence  $f_1 \circ \cdots \circ f_n$  converges locally uniformly on  $D$  to a constant. In the case of one complex variable, we are able to show that this is so if there is a sequence  $\{w_1, w_2, \dots\}$  in  $D$  whose values are not taken by any  $f_j$  in  $D$ , and which is homogeneous in the sense that it comes within a fixed hyperbolic distance of any point of  $D$ . The situation for several complex variables will also be discussed.