

# THE SIERPINSKI MANDELBROT SPIRAL

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In this presentation we identify a structure that lies in the parameter plane of the family of maps  $F(z) = z^n + \lambda/z^d$  where  $n \geq 4$  is even but  $d \geq 3$  is odd. We call this structure a “Sierpinski Mandelbrot spiral.” There exists in the parameter plane a “Sierpindelbrot arc” of infinitely many alternating Mandelbrot sets and Sierpinski hole. One can picture a parameter traveling along infinitely many Sierpindelbrot arcs in a spiraling fashion and converging to the unique parameter value for which the critical value lands on a fixed point in dynamical space. These infinitely many arcs comprise the Sierpinski Mandelbrot spiral.