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IN 47405. *Pinching Deformations of Rational Maps.*

Let  $f$  be a rational map defined on the Riemann sphere. Then  $f$  defines a dynamical system whose chaotic locus is called the Julia set. A pinching deformation,  $f_t, t > 0$ , is a one-parameter family of deformations of  $f$ . It is a way to create a parabolic cycle by forcing an attracting cycle and a repelling cycle to collide. The main result shows that for certain pinching deformations, if  $f_t \rightarrow g$  uniformly, then the Julia set of  $f_t$  converges in the Hausdorff topology to the Julia set of  $g$  in the Hausdorff topology. (Received December 03, 2008)