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Towards a dynamical Pink-Zilber conjecture.

Let f_λ be a family of polynomials over the complex numbers, with λ varying, subject to certain hypotheses. Let a_λ and b_λ be two families of points with λ varying. We show that if there are infinitely many choices of complex z such that a_z and b_z are both preperiodic for f_z , then a_λ and b_λ satisfy a very simple relation. This can be interpreted geometrically as a dynamical variant of the Pink-Zilber conjecture for families of semiabelian varieties. The techniques here follow work of Baker, DeMarco, Masser, and Zannier. (Received February 16, 2011)