

PARAMETRIZED FAMILIES OF ELLIPTIC FUNCTIONS WITH EMPTY FATOU SETS

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ABSTRACT. We investigate parametrized families of elliptic functions on real rectangular lattices of the form $f_{n,\Lambda,b}(z) = (\wp_\Lambda(z))^n + b_\Lambda$, where Λ is a real rectangular lattice, n is a positive integer, and b_Λ is a real number. Although these functions have four critical values, we prove that they have at most one attracting or parabolic cycle of Fatou components. We find some families for which the Julia set is always the entire sphere.