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Mónica Moreno Rocha* (mmoreno@cimat.mx), Centro de Investigación en Matemáticas, CIMAT, Callejón Jalisco s/n, 36023 Guanajuato, Gto, Mexico. *Elliptic functions and Herman rings*. Preliminary report.

Consider a dynamical system on the Riemann sphere defined by the iterates of a rational function. The maximal connected components where the iterates form a normal family are known as Fatou components. Periodic Fatou components are classified into five types: super-attracting, attracting and parabolic basins, Siegel disks and Herman rings. In contrast to other type of periodic components, Herman rings are not associated to a periodic orbit, hence it is not a simple problem to determine when a rational function has a cycle of Herman rings.

In the context of iteration of elliptic functions, it was shown by J. Hawkins and L. Koss (2004) that for any lattice Λ , the Weierstrass \wp_Λ function has no cycle of Herman rings. Similar results have been obtained for other elliptic functions, mostly of even order and over special lattices. In this talk we describe a quasiconformal procedure between an elliptic function of order $n \geq 2$ and a rational function of degree $d \geq 2$ in order to obtain a new elliptic function of order $n + d - 1 \geq 3$ that exhibits a cycle of Herman rings. (Received September 25, 2017)