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Ilies Zidane* (ilies.zidane@math.univ-toulouse.fr), Institut de Mathematiques de Toulouse, Universite Paul Sabatier, 118, route de Narbonne, 31062 Toulouse, France. *On the bifurcation locus of cubic polynomials and the size of Siegel disks.*

Yoccoz gave a sufficient arithmetical condition of linearization of fixed points of holomorphic germs with multiplier $\exp(\mathbf{i}2\pi\alpha)$ where α is an irrational number: $f(z) = \exp(\mathbf{i}2\pi\alpha)z + \mathcal{O}(z^2)$. He also proved that this condition is optimal for quadratic polynomials. We will discuss this optimality for cubic polynomials and quadratic rational maps. We will see how is it related to the size of Siegel disks and parabolic implosion/renormalization. This leads to the study of slices of bifurcation locus where some surprising, unexpected and complicated phenomenons occur due to the interaction between the two critical points. We also investigate some virtual slices arising as geometric limits (parabolic enrichment) of dynamical systems.

We seek analogues of *Zakeri* curves (the locus where the two critical points lie at the boundary of the Siegel disk) in these slices, when the rotation number is not of bounded type, and even, for *Cremer* slices. Given a Siegel slice, the logarithm of the conformal radius of the Siegel disk is a subharmonic function, whose Laplacian is therefore a measure which gives a new viewpoint as well as a lot of information. (Received September 17, 2013)