1017-14-110 **Brian Osserman*** (osserman@math.berkeley.edu), Department of Mathematics, The University of California, Berkeley, CA 94720-3840. *Progess on Riemann existence via degenerations.*

The Riemann existence theorem precisely describes branched covers of Riemann surfaces in terms of the monodromy data of the covers. The Grothendieck school was able to apply these transcendental methods to the context of branched covers of algebraic curves in characteristic p, but much remains open in the case that the order of the monodromy group is not prime to p. We present some new results classifying certain covers in this situation, obtained via degeneration arguments, and using comparison to linear series theory and a relationship with Mochizuki's work on torally indigenous bundles. (Received February 16, 2006)