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Jane Gilman*, gilman@rutgers.edu. *Conformal Automorphism Groups, Adapted Bases, and Generating Vectors.*

Recently there has been renewed interest in the action of a conformal automorphism group on a compact Riemann surface as new more sophisticated group theoretic tools have been applied to the conformal, geometric, algebraic, and topological problem. I will summarize older results obtained when I originated the concept of an adapted homology bases for prime order automorphisms and extend these results and definitions to new results for arbitrary finite groups. I will use Broughton's more recent concept of a generating vector combined with the older methods of curve lifting-cutting-pasting and the less ad hoc method of Schreier-Reidemeister rewriting process and elimination of generators and relations. I will survey more recent results of Anderson, Wootton, Broughton, Buser, Gonzalez, Hildago, Weaver, Rodriguez and others. (Received September 16, 2012)