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David C Meyer* (david-c-meyer@uiowa.edu). *Representations of finite subgroups of $\mathrm{GL}_2(\mathbb{C})$ and universal deformation rings.* Preliminary report.

Let Γ be a finite group and let V be an absolutely irreducible $\mathbb{F}_p\Gamma$ -module. By Mazur, V has a universal deformation ring $R(\Gamma, V)$. This ring is characterized by the property that the isomorphism class of every lift of V over a complete local commutative Noetherian ring R with residue field \mathbb{F}_p arises from a unique local ring homomorphism $\alpha : R(\Gamma, V) \rightarrow R$. Let G be a finite subgroup of $\mathrm{GL}_2(\mathbb{C})$. We associate to G a collection of finite groups $\{\Gamma\}$, where each Γ is an extension of G by an elementary abelian p -group N of rank 2, for certain choices of odd primes p . For such a group Γ , a typical absolutely irreducible $\mathbb{F}_p\Gamma$ -module V will have universal deformation ring $R(\Gamma, V)$ isomorphic to the p -adic integers \mathbb{Z}_p . We discuss those “exceptional” V for which $R(\Gamma, V)$ is not isomorphic to \mathbb{Z}_p . (Received September 15, 2014)