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## **Rings and images occurring from universal deformations of profinite groups**

*Tuesday, June 24, 2014 9:00 AM (1 hour)*

Recently Dorobisz, Eardley-Manoharmayum and Manoharmayum have proved abstract results (a) on the shape of possible deformation rings and (b) on the image of universal deformations of profinite groups, for representations into  $GL_n$ . The result regarding (a) were motivated by questions of Bleher, Chinburg and de Smit. We place these results in an axiomatic framework that in principle applies to all reductive groups that are simple modulo their center. In this framework, we give alternative proofs of the above results. For the case  $GL_n$  we recover the results by Dorobisz, Eardley and Manoharmayum. For other cases, it remains to verify the stated axioms for these groups, for instance results on the first and second cohomology for the adjoint action of these groups. This is work in progress jointly with Sara Arias de Reyna.

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