Meeting: 1002, Pittsburgh, Pennsylvania, SS 14A, Special Session on Modularity of Galois Representations and Serre's Conjecture

1002-11-33 **Francesco Calegari*** (fcale@math.harvard.edu), Department of Mathematics, Harvard University, 1 Oxford Street, Cambridge, MA 02138. *Eisenstein Deformation Rings.*

We prove R = T theorems for certain reducible residual Galois representations. We answer in the positive a question of Gross and Lubin on whether certain Hecke algebras T are discrete valuation rings. In order to prove these results we determine (using the theory of Breuil modules) when two finite flat group schemes G and H of order p over an arbitrarily tamely ramified discrete valuation ring admit an extension not killed by p. (Received July 16, 2004)