Khare, Chandrashekhar

A local analysis of congruences in the (p,p) case. II. (English) Zbl 0971.11028

Invent. Math. 143, No. 1, 129-155 (2001).

Fix an odd rational prime p. Let $\rho : G_{\mathbb{Q}} \to \mathrm{GL}_2($

$\mathrm{F}_p)$ be a continuous, irreducible representation of the absolute Galois group $G_{\mathbb{Q}} = \mathrm{Gal}($

$\mathrm{Q}/\ \mathrm{Q})$. We say that ρ arises from a newform $f \in S_k(\Gamma_1(M))$ $(k \geq 2)$ if ρ is the reduction modulo the maximal ideal of an integral model of the irreducible p-adic representation $\rho_f : G_{\mathbb{Q}} \to \mathrm{GL}_2(K)$ attached to f by Eichler, Shimura and Deligne.

The author studies the local components at p of newforms f that give rise to ρ (Theorems 1 to 5). His proofs of these theorems (given in sections 3, 4 and 5) are along the lines outlined in the introduction of his paper [Compos. Math. 112, 363-376 (1998; Zbl 1072.11506)].

Reviewer: A.Dąbrowski (Szczecin)

MSC:

11F33	Congruences for modular and p-adic modular forms
11F80	Galois representations

Keywords:

p-adic Galois representation; modular curve; newform; Jacquet-Langlands correspondence; Steinberg lift

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