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

1002-11-28   **Michael M. Schein*** (`mschein@math.harvard.edu`), Department of Mathematics, Harvard University, 1 Oxford St., Cambridge, MA 02138. *Weights of Galois representations associated to Hilbert modular forms.* Preliminary report.

Let F be a totally real field, p a rational prime unramified in F, and $\mathfrak{p}$ a place of F over p. Let $\bar{\rho}$ be a two-dimensional mod $\mathfrak{p}$ representation of $Gal(\bar{F}/F)$ which is assumed to be modular of some weight and whose restriction to a decomposition subgroup at $\mathfrak{p}$ is irreducible. We specify a set of weights, determined by the restriction of $\bar{\rho}$ to an inertia subgroup, which contains all the weights for which $\bar{\rho}$ is modular (and, conjecturally, nothing else). This proves a special case of a conjecture of F. Diamond, which provides an analogue of Serre's epsilon conjecture for Hilbert modular forms mod p. (Received July 12, 2004)

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