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On nearly ordinary Hecke algebras for $GL(2)$ over totally real fields. (English) [Zbl 0742.11026](#)
Algebraic number theory - in honor of K. Iwasawa, Proc. Workshop Iwasawa Theory Spec. Values L -
Funct., Berkeley/CA (USA) 1987, Adv. Stud. Pure Math. 17, 139-169 (1989).

[For the entire collection see [Zbl 0721.00006](#).]

Let F be a totally real field of degree d , p a rational prime, and \mathcal{O} a valuation ring finite and flat over \mathbb{Z}_p and containing all conjugates of the ring of integers of F . In earlier work the author has constructed, for each positive weight v , a Hecke algebra $h_v^{ord}(1, \mathcal{O})$ such that for each non-negative weight n parallel to $-2v$ the Hecke algebra over \mathcal{O} for the space of Hilbert cusp forms of level p^α and weight $(n + 2t, v + n + t)$ can be obtained uniquely as a quotient of $h_v^{ord}(1, \mathcal{O})$. In this paper the author constructs a universal Hecke algebra of which each algebra $h_v^{ord}(1, \mathcal{O})$ is a quotient.

As a corollary, the author observes that if f is a normalized Hilbert eigenform then f has an s -dimensional p -adic deformation over \mathcal{O} , where $s > d$. Moreover, if Leopoldt's conjecture holds for F and p then, in fact, $s = d + 1$.

Reviewer: [S.Kamienny \(Los Angeles\)](#)

MSC:

11F41 Automorphic forms on $GL(2)$; Hilbert and Hilbert-Siegel modular groups and their modular and automorphic forms; Hilbert modular surfaces

11S40 Zeta functions and L -functions

Cited in **2** Reviews
Cited in **26** Documents

Keywords:

[Hilbert cusp forms](#); [universal Hecke algebra](#); [\$p\$ -adic deformation](#); [Leopoldt's conjecture](#)