81. *A Table of the Dimensions of the Hilbert Modular Type Cusp Forms for the Hurwitz-Maass Extensions**)

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1. **Introduction and the table.** For a square-free positive number D, let k be a real quadratic number field $\boldsymbol{Q}(\sqrt{D})$, and $\mathfrak{o}$ the ring of integers in k. There is a unique maximal discrete extension of the Hilbert modular group $G = SL_2(\mathfrak{o})$ in $PL_2^+(\boldsymbol{R})^2$, which is called the *Hurwitz-Maass extension* G_m of G. G_m acts properly discontinuously on H^2 (H being a complex upper half plane). We consider the spaces $S(D)_m$ of the cusp forms of weight two with respect to G_m in H^2.

For the ordinary Hilbert modular group G and the extended Hilbert modular group $\hat{G}$, we have already given dimension tables in [5], [6]. This note continues the work of [6]: we tabulate the dimensions of $S(D)_m$ for a square-free D, $1 < D < 1000$, with a computer assistance. In the following table, the number D is given by

(1)　$D = i + j$　($i =$ row number, $j =$ column number).

When the mark '$-$' appears after a figure, $\boldsymbol{Q}(\sqrt{D})$ has a unit of negative norm. The mark '**' means that D is not square-free.

2. **The method of the computation.** For a square-free divisor w of the discriminant d_k of k, we denote by G_w the subgroup of G_m arising from the set of matrices $\begin{pmatrix} a, & b \\ c, & d \end{pmatrix}$ such that $a, b, c, d \in (w)^{1/2}$, $ad - bc = w$, where $(w)^{1/2}$ is an ideal whose square equals (w). Then we have

(2)　$$G_m = \bigcup_{w \mid d_k} G_w.$$

Let t be a number of distinct primes dividing d_k. When $t = 1$, G_m coincides with G; when $t = 2$ and k has no units of negative norm, G_m coincides with $\hat{G}$. G_m is also the maximal discrete subgroup of $PL_2^+(\boldsymbol{R})^2$ containing $\hat{G}$ ([7]). The elliptic fixed points of G_m was investigated by Hausmann [1]. Note that $[G_m : G] = 2^{t-1}$ and G_m has $h^+/2^{t-1}$ inequivalent cusps where h^+ is the narrow class number of k.

By virtue of [1], [3], we get

Theorem. *The dimension of* $S(D)_m$ *is given by*

(3) $\dim S(D)_m = t_0 + t_1 + t_2 - 1.$

Each term can be written as follows.

(4) $t_0 = (1/2^t)\ \zeta_k(-1)$

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