

Explain Vite Components

1) Modular forms $M_k(\Gamma)$, $S_k(\Gamma)$
 Fourier coefficients
Periods

How does one describe these guides: cite Eichler, cite Neukirch
 Structure: Hecke-operators
 Hecke-splitting

2) Jacobi forms

for Eigenforms FC + Periods especially in Deninger; Venne

1) FC + P so interesting how are they connected

2) Use Jacobi theta, they are in a sense the same, the law which connects FC + P, at least partly

Beautiful, but definition highlighting, do not give it

$J_{k,m}^+$: Locus of $\exp(\tau, z): g \times \mathbb{C} \rightarrow \mathbb{P}^1$

comp. law under $SL(2, \mathbb{Z}) \times \mathbb{Z}^2$: $\bar{\tau} \approx$ modular form of weight k
 $z \approx$ theta function or theta series with $2m$ zeros ($\neq \theta(\tau, z)$)

Prototype: $\sum q^n \cos(n\tau + 2\pi z) \in J_{2,1}^-(\Gamma_0(4))$

important: Fourier development:

$$f = \sum_{\substack{0 \leq n < k \\ \Delta z^2 = 4m}} c_n e\left(\frac{n\tau}{4} + \frac{nz}{2}\right) \quad (n \neq -2z)$$

$$\Delta \left\{ \begin{matrix} \geq 0 & n \neq 0 \\ \leq 0 & n = 0 \end{matrix} \right.$$

$S_{k,m}^{\pm}$: $\varphi(\tau, z) \in \mathbb{C}(\tau, z)$

Theor
 Theor
 Venne

Den's Problem

exist solution to mod form by theta series, but not sufficient for Jac forms anyway, does not give periods

solution which I give starts with periods
 idea to embed FC to periods due to Maass modular symbols
 exactly where I stand too?