

Siegel modular forms with respect to non-split symplectic groups

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Let B be an indefinite quaternion algebra over \mathbb{Q} . We define an algebraic group G over \mathbb{Q} by

$$G(\mathbb{Q}) := \left\{ g \in GL(2; B) \mid {}^t \bar{g} \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix} g = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix} \right\}.$$

Then the group $G(\mathbb{R})$ of \mathbb{R} -rational points is isomorphic to $Sp(2; \mathbb{R})$. For the maximal order \mathfrak{O} of B , which is unique up to conjugation, and a maximal two-sided ideal \mathfrak{A} of \mathfrak{O} , we can define a discrete subgroup of $Sp(2; \mathbb{R})$:

$$G(\mathbb{Q}) \cap \begin{pmatrix} \mathfrak{O} & \mathfrak{A}^{-1} \\ \mathfrak{A} & \mathfrak{O} \end{pmatrix}.$$

In this talk, we will consider Siegel modular forms for this group.