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On Siegel paramodular forms corresponding to skew-holomorphic Jacobi cusp forms. (English) [Zbl 1460.11068]


The classical Saito-Kurokawa or Maass lift for Siegel modular forms of genus 2 yields A-packets of size two. The elements of these packets that do not correspond to holomorphic Siegel modular forms are the topic of this article.

The Maass lift is formulated via a Fourier-Jacobi expansion, putting particular emphasis on Jacobi forms. In the 90ies, after skew-holomorphic Jacobi forms where formulated as a type of companion to the holomorphic ones – they correspond to the elements of size-2 Waldspurger-packets for the metaplectic group \( Mp_1 \) – W. Kohnen [Enseign. Math. (2) 39, No. 1–2, 121–136 (1993; Zbl 0787.11019)] asked the question whether there is a Maass lift originating from these rather than holomorphic Jacobi forms. Since the Maass lift extends from, say, the full Siegel modular group to paramodular groups, it is natural to equally extend the scope of Kohnen’s question. The present article provides such a lift in a mixture of language of modular forms applied to skew-holomorphic Jacobi forms and language of automorphic forms applied to Siegel modular forms.

Reviewer: Martin Raum (Gothenburg)

MSC:

11F46 Siegel modular groups; Siegel and Hilbert-Siegel modular and automorphic forms
11F30 Fourier coefficients of automorphic forms
11F37 Forms of half-integer weight; nonholomorphic modular forms
11F50 Jacobi forms

Keywords:

skew-holomorphic Jacobi forms; paramodular forms; Maass lift

Full Text: DOI

References:


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