

# CONVERSE THEOREM FOR JACOBI FORMS

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In 1936, E. Hecke showed an outstanding equivalence between the automorphy of an elliptic cusp form  $f(\tau)$  on  $SL_2(\mathbb{Z})$  and the functional equation satisfied by certain Dirichlet series  $L(f, s)$  associated to  $f$ . In 1967, a very significant generalization of Hecke's converse theorem for elliptic cusp forms on congruence subgroups was given by A. Weil. In 1996, Y. Martin (JNT 61 (1996), 181–193) established converse theorem for Jacobi cusp forms on  $\mathcal{H} \times \mathbb{C}$  by investigating finitely many Dirichlet series associated to them. In this talk we will discuss a converse theorem for Jacobi cusp forms on  $\mathcal{H}_2 \times \mathbb{C}^2$ , where  $\mathcal{H}_2$  denotes the Siegel upper half-space of degree 2 and  $\mathbb{C}^2$  is the set of all  $1 \times 2$  row vectors with entries in  $\mathbb{C}$ . For that we need to investigate an infinite family of Dirichlet series associated to a Jacobi cusp form defined on  $\mathcal{H}_2 \times \mathbb{C}^2$ . This is a joint work with W. Kohnen and Y. Martin.