

SCHOLAR
UNE CÉLÉBRATION SCIENTIFIQUE SOULIGNANT LES LIGNES OUVERTES DE LA RECHERCHE MATHÉMATIQUE EN
L'HONNEUR DE L'HÉRITAGE MATHÉMATIQUE DU P^R M. RAM MURTY À L'OCCASION DE SON 60^E ANNIVERSAIRE
15 AU 17 OCTOBRE 2013

SCHOLAR
A SCIENTIFIC CELEBRATION HIGHLIGHTING OPEN LINES OF ARITHMETIC RESEARCH IN
HONOUR OF PROFESSOR M. RAM MURTY'S MATHEMATICAL LEGACY ON HIS 60TH BIRTHDAY
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Non-vanishing of L -functions, and the finiteness of rational points on certain Picard modular surfaces

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Let X be a Picard modular surface defined by (the compactification of) a quotient of the unit ball in \mathbb{C}^2 by a congruence subgroup Γ of $U(2, 1)$ defined by a 3-dimensional vector space over an imaginary quadratic field K with a skew-hermitian form. The object of the talk is to introduce some joint work with M. Dimitrov showing that for an infinite class of Γ , the K -rational points of X are finite. Used in the proof is the non-vanishing of a pair of Hecke L -functions at the center, as well as the non-vanishing of certain Fourier—Jacobi coefficients at torsion points.

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