Twelfth International Conference on
Geometry, Integrability and Quantization
June 4–9, 2010, Varna, Bulgaria
Ivaïlo M. Mladenov, Gaetano Vilasi
and Akira Yoshioka, Editors
Avangard Prima, Sofia 2011, pp 263–289

MODULAR FORMS ON BALL QUOTIENTS OF NON-POSITIVE KODAIRA DIMENSION*

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Abstract. The Baily-Borel compactification $\widehat{\mathbb{B}/\Gamma}$ of an arithmetic ball quotient admits projective embeddings by Γ-modular forms of sufficiently large weight. We are interested in the target and the rank of the projective map Φ, determined by Γ-modular forms of weight one. This paper concentrates on the finite H-Galois quotients $\mathbb{B}/\Gamma_H$ of a specific $\mathbb{B}/\Gamma_{-1}^{(6,8)}$, birational to an abelian surface A_{-1}. Any compactification of $\mathbb{B}/\Gamma_H$ has non-positive Kodaira dimension. The rational maps Φ^H of $\widehat{\mathbb{B}/\Gamma_H}$ are studied by means of the H-invariant abelian functions on A_{-1}.

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*Reprinted from J. Geom. Symm. Phys. **20** (2011) 69–96.