CO-ABELIAN MODULAR FORMS ON BALL QUOTIENTS

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Let Q be a quotient of the complex two-ball by a neat lattice, whose Baily-Borel compactification Z is birational to an abelian surface and has h cusps. The article constructs several regular embeddings of Z in a complex projective space of dimension h or $h + 1$, given by modular forms of weight two. It establishes that any neat co-abelian Q has a finite etale cover Q' whose Baily-Borel compactification Z' admits a regular embedding by modular forms of weight two in a projective space, whose dimension is bounded above by the number of the cusps of Z'.

Contents