



# 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 étale 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  $Z'$ .

MSC: 11F11, 14G35, 14K12, 14K15

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