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S. Casalaina-Martin* (casa@math.colorado.edu), University of Colorado at Boulder,
Department of Mathematics, Campus Box 395, Boulder, CO 80309. *The geometry of the ball
quotient model of the moduli space of genus four curves.*

Many moduli spaces can be described as arithmetic quotients. The standard examples are moduli spaces of abelian varieties and of K3 surfaces. The Baily-Borel compactification of such spaces provides a projective completion with a number of good properties, although typically, it can be difficult to give a modular interpretation to the points in the boundary. Recently, S. Kondo has given an arithmetic (ball) quotient description of the moduli space of non-hyperelliptic genus four curves. In this talk I will discuss how the Baily-Borel compactification of this space can be compared with the Chow quotient for canonically embedded genus four curves; this provides a modular interpretation of the points in the boundary. Connections with the Hassett-Keel program will also be discussed. This is joint work with D. Jensen and R. Laza. (Received August 16, 2011)