

1106-11-702

Andrew Niles* (aniles@holycross.edu), Dept. of Mathematics & Computer Science, College of the Holy Cross, 1 College Street, Worcester, MA 01610. *Moduli of elliptic curves via twisted stable maps.*

In this talk, we compare two ways of compactifying certain arithmetic stacks of elliptic curves with level structure. On the one hand, we have the well-known Katz-Mazur regular models, whose cusps were given a moduli interpretation by Deligne and Rapoport in characteristics not dividing the level and by Conrad in arbitrary characteristic. On the other hand, a special case of the work of Abramovich, Olsson and Vistoli regarding twisted stable maps yields proper moduli stacks containing stacks of elliptic curves with level structure as locally closed substacks. We show that in this second case, the closure of the stack of elliptic curves with level structure admits a natural moduli interpretation. Furthermore, the resulting moduli stack is isomorphic to the Katz-Mazur regular model, and this isomorphism also has a moduli interpretation. (Received September 04, 2014)