

1117-14-531

Matthew Grimes* (matthew.grimes@colorado.edu). *Relative moduli stacks of vector bundles and good moduli spaces.*

It is well-known that for a fixed degree and rank every smooth curve admits a moduli space of slope semi-stable vector bundles. A natural question to ask is if these moduli spaces can be stitched together to form a universal moduli space of vector bundles over the moduli space of curves. Simpson showed that this is possible over the moduli space of automorphism-free curves, and work of Caporaso (rank 1) and Pandharipande provides a universal moduli space of vector bundles over the moduli space of Deligne–Mumford-stable curves via Geometric Invariant Theory.

We will discuss recent work in this area, including an extension of these results to Schubert’s moduli space of pseudo-stable curves, obstacles to continuing along the Hassett–Keel program on \overline{M}_g , and an exploration of the problem from the perspective of constructing good moduli spaces for moduli stacks. (Received January 19, 2016)