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Global Generation of Vector Bundles over Elliptic Curves

Given an algebraic set X (e.g. a curve or surface), a vector bundle over X associates a vector space to each point of X in a smooth manner. In 1957, Sir Michael Atiyah provided a classification of vector bundles over elliptic curves. Using this classification, the goal of our research is to determine when a vector bundle over an elliptic curve is globally generated. This poster is meant to introduce preliminaries to the problem, as well as present some progress towards its resolution.