962-14-645 **Jeffrey A Rosoff*** (jr@gac.edu), Department of Mathematics and Comp.Sci., Gustavus Adolphus College, 800 W. College Ave., St. Peter, MN 56082. *Effective Divisor Classes on a Ruled Surface.*

The Neron-Severi group on a smooth algebraic surface is often not difficult to calculate, and has classically been studied as a fundamental invariant of the surface. A more difficult problem is determining those divisor classes which can be represented by effective divisors. Despite the finite generation of the whole Neron-Severi group, the monoid of effective divisor classes may or may not be finitely generated, and the methods used to explicitly calculate this monoid seem to vary widely as one proceeds from one type of surface to another in the standard classification scheme. In this talk we describe the monoid of effective divisor classes mod algebraic equivalence on a complex ruled surface over a given base curve. We find that over a base curve of genus 0, the monoid of effective classes is very simple, having just two generators, while for ruled surfaces over a curve of genus 1, the monoid is more complicated, having either two or three generators. For ruled surfaces over curves of genus 2 or greater, we give necessary and sufficient conditions for the monoid of effective divisor classes to be finitely generated; these conditions point to the existence of many ruled surfaces over curves of higher genus for which finite generation fails. (Received September 18, 2000)