

LINEAR SYSTEMS ON CURVES AND GRAPHS

MARTA PANIZZUT

The main topic of this talk is the specialization of linear systems from curves to graphs. We begin by briefly defining linear systems on smooth algebraic curves. Then we focus on linear systems on graphs, as introduced by Baker and Norine. The interplay between the two theories is given by Baker's specialization lemma. Let X be a smooth curve over the field of fractions of a complete discrete valuation ring and let \mathfrak{X} be a strongly semistable regular model of X . It is possible to specialize a divisor on the curve to a divisor on the dual graph of the special fiber of \mathfrak{X} ; through this process the rank of the divisor can only increase. We conclude by studying the example of smooth plane curves and complete graphs.