

# Queen's Algebraic Geometry — Seminar —

## DIOPHANTINE APPROXIMATION CONSTANTS FOR VARIETIES OVER FUNCTION FIELDS

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### Abstract

Let  $\mathbf{K}$  be a field of characteristic zero,  $\overline{\mathbf{K}}$  an algebraic closure of  $\mathbf{K}$ , and let  $X$  be a projective variety defined over  $\mathbf{K}$ . We define *approximation constants*, depending on a choice of very ample line bundle  $L$  on  $X$  and a point  $x \in X(\overline{\mathbf{K}})$ , extending the theory developed by McKinnon–Roth for the case that  $\mathbf{K}$  is a number field. We then use an effective version of Schmidt's subspace theorem applicable to the case that  $\mathbf{K}$  is a function field, due to J.T.-Y. Wang, to give a sufficient condition for such approximation constants to be computed on a proper  $\mathbf{K}$ -subvariety of  $X$ . We also indicate how our approximation constants are related to volume functions and Seshadri constants.

Monday, 9 November 2015  
16:30–17:30  
319 Jeffery Hall