1046-11-624 **Patrick X Rault*** (rault@geneseo.edu), Department of Mathematics, 326C South Hall, State University of New York, Geneseo, NY 14454. *On uniform bounds for rational points on rational curves and thin sets.* Preliminary report.

We use rational parametrizations and Fourier techniques to make progress on an open question about counting rational points on plane curves. Heath-Brown proved that for any $\epsilon > 0$ the number of rational points of height at most B on a degree d plane curve is $O_{\epsilon,d}(B^{2/d+\epsilon})$ (the implied constant depends on ϵ and d). It is known that Heath-Brown's theorem is sharp apart from the ϵ, but in certain cases the bound has been improved to $\epsilon = 0$. The open question is whether or not the bound with $\epsilon = 0$ holds in general. We shed additional light on this open problem by giving, in certain cases, an improved upper bound which is inversely proportional to a positive power of the resultant of the curve. (Received September 09, 2008)