1035-11-1235 **Patrick X Rault*** (rault@math.wisc.edu), University of Wisconsin-Madison, Mathematics Department, 480 Lincoln Dr, Madison, WI 53706-1388. *On uniform bounds for rational points on rational curves and thin sets.* Preliminary report.

We show that the number of rational points of height at most B, on the image of a degree 2 map from $\mathbb{P}^1$ to $\mathbb{P}^n$ ($n \geq 1$), is $O(B)$, where the point is that the implied constant is independent of the choice of the map. This theorem improves on a result of Heath-Brown and Browning Heath-Brown in the case of degree 2 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). Browning and Heath-Brown later proved that this result holds with $\epsilon = 0$ for degree 2 curves. It is known that Heath-Brown's theorem is sharp apart from the ϵ, and in fact Ellenberg and Venkatesh have proven that there is some $\delta > 0$ for which the counting function for any plane curve of positive genus is at most $O_d(B^{2/d-\delta})$. It is an open question whether Heath-Brown's Theorem is true with $\epsilon = 0$. (Received September 19, 2007)