

# Multisecant lines to smooth projective varieties

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For a non-degenerate smooth projective variety  $X$  of degree  $d$  and dimension  $n$  in projective space of dimension  $N$ , it is well-known that the length of the intersection with  $X$  of a secant line  $L$  is at most  $d - N + n + 1$ . The purpose here is to classify  $X$  with a secant line  $L$  such that  $\text{length}(X \cap L) = d - N + n + 1 - \delta$ , for small  $\delta$ .