

# ON THE INTEGRAL POINTS ON CERTAIN ALGEBRAIC VARIETIES

UMBERTO ZANNIER

We present some recent results on  $S$ -integral points on certain affine varieties of dimension  $> 1$ . Some results concern non-singular surfaces, some other ones arise from diophantine equations with linear recurrences. These results, obtained jointly with P. Corvaja, use the Schmidt Subspace Theorem applied to suitable auxiliary linear forms, constructed as values of certain regular functions on the variety. For the methods to apply, it is necessary that the divisor at infinity is highly reducible; we give examples showing that without this restriction very difficult problems arise even in simple contexts. We then show some instances when the reducibility condition may be achieved by taking an unramified cover, as in recent work by Faltings.