ON THE SMOOTHABILITY OF CYCLES IN THE WHITNEY RANGE

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Abstract:

We prove that for any smooth projective variety X over a field of characteristic 0, any cycle of dimension d on X can be written modulo rational equivalence as an integral combination of classes of smooth subvarieties, assuming the Whitney condition $2d < \dim X$. This follows from a more general theorem : any cycle (of any dimension) on X can be obtained by pushing-forward a product of divisors on a smooth projective variety Y under a flat projective morphism Y-> X. This is joint work with J. Kollár.