

Intersection theory on semi-stable varieties

Henri Gillet

For general regular schemes, we only know how to define a product structure on the Chow ring after tensoring with the rational numbers. For a scheme X which is smooth over a Dedekind domain, one can, following Fulton, use the fact that the diagonal is regularly immersed in the fiber product $X \times_S X$, to define a product using deformation to the normal cone, without having to tensor with the rationals. In this talk I shall describe how one can also use deformation to the normal cone to define such a product if X is semi-stable over S , even though the diagonal is not regularly immersed.