

1086-16-1830 **Anthony Ruozzi*** (anthony@mathcs.emory.edu). *Essential Dimension and the Brauer Group*.

Interest in essential dimension problems has been growing in recent years. This should not be surprising since the essential dimension captures quite elegantly the “least number of parameters” needed to define a wide range of algebraic objects. Calculations of this number require most of our algebraic and geometric machinery. Consequently, what began as a problem in Galois cohomology and representation theory now has connections to versal torsors, stacks, motives, birational geometry, and invariant theory. This talk will survey the basics of essential dimension and how it relates to central simple algebras. I will briefly discuss what is known, more of what is unknown, and how to actually compute some bounds on the essential p -dimension of PGL_p^n . (Received September 24, 2012)