

1139-14-366

**Antonella Grassi\*** ([grassi@math.upenn.edu](mailto:grassi@math.upenn.edu)), Philadelphia, PA 19104. *Noether-Lefschetz locus on singular varieties and applications.*

The classical Noether-Lefschetz theorem says that any curve in a very general surface  $X$  in  $\mathbb{P}^3$  of degree  $d \geq 4$  is a restriction of a surface in the ambient space, in particular the Picard number of  $X$  is 1. The Noether-Lefschetz locus is the locus of the degree  $d \geq 4$  surfaces in  $\mathbb{P}^3$  whose Picard number is greater than 1. I will discuss generalizations to singular ambient spaces, properties of the components of maximal codimension in the Noether-Lefschetz locus and applications to the Hodge conjecture for very general hypersurfaces in toric varieties. (Based on work with Bruzzo and Lopez) (Received February 16, 2018)