

1154-14-831

**Nguyen-Bac Dang, Dragos Ghioca, Fei Hu and John Lesieutre\***, jdl@psu.edu, and  
**Matthew Satriano**. *Higher arithmetic degrees of rational maps*. Preliminary report.

Suppose that  $f : X \dashrightarrow X$  is a dominant rational self-map of a variety defined over a number field. For a point  $P$  on  $X$ , Kawaguchi and Silverman have defined the arithmetic degree of  $f$  at  $P$ , a measure of the asymptotic growth rate of the heights of points  $f^n(P)$ . In this talk, I will introduce a definition of higher arithmetic degrees, measuring the growth rates of heights of higher-dimensional cycles. I will then describe efforts to develop a theory of arithmetic degrees in parallel to the much better established theory of dynamical degrees. This project is joint work with Nguyen-Bac Dang, Dragos Ghioca, Fei Hu, and Matthew Satriano. (Received September 11, 2019)