1155-14-506 **Andrew Kobin*** (ak5ah@virginia.edu) and **Libby Taylor** (lt691@stanford.edu). $\mathbb{A}^1$-*Local Degree via Stacks.*

Using a root stack construction, we extend results of Kass and Wickelgren to define an Euler class for a non-orientable vector bundle on a smooth scheme, valued in the Grothendieck–Witt group $GW(k)$ of the ground field. This allows one to apply Kass–Wickelgren's techniques for arithmetic enrichment of enumerative geometry problems to a larger class of problems. For example, our construction produces a new arithmetic count of the number of lines meeting 6 general hyperplanes in $\mathbb{P}^4$. (Received January 20, 2020)