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**Paul Baginski\*** (pbaginski@fairfield.edu), Dept. of Mathematics, Fairfield University, 1073 North Benson Rd., Fairfield, CT 06824. *Elasticity and Factorization in Numerical Semigroup Rings*.

Given a numerical semigroup  $S$  and a field  $K$ , we can construct the numerical semigroup ring  $K[S] \subseteq K[x]$ , consisting of polynomials with coefficients in  $K$  where the only powers of  $x$  permitted are those integers that appear in  $S$ . These integral domains have nonunique factorization and their factorization properties have been studied extensively. We will give an update on what is known about factorization in these rings, focusing in particular on the elasticity. Given a nonzero nonunit  $a$ , the elasticity  $\rho(a)$  is the length of a longest factorization of  $a$ , divided by the shortest factorization length of  $a$ . The elasticity of the ring  $R$  is  $\rho(R) = \sup_{a \in R} \rho(a)$ . We will discuss the value of  $\rho(K[S])$ , the distribution of elasticities of elements in  $K[S]$ , and how these questions relate to the analogous answers for  $S$  itself. We will also discuss how the class group of  $K[S]$  can be described in terms of the numerical monoid  $S$ . (Received February 29, 2020)