1145-16-637   **Elizabeth Wicks*** (`lizwicks@uw.edu`). *Frobenius-Perron Theory of Modified ADE Bound Quiver Algebras.*

The Frobenius-Perron dimension for an abelian category was recently introduced. We apply this theory to the category of representations of the finite-dimensional radical square zero algebras associated to certain modified ADE graphs. In particular, we take an ADE quiver with arrows in a certain orientation and an arbitrary number of loops at each vertex. We show that the Frobenius-Perron dimension of this category is equal to the maximum number of loops at a vertex. Along the way, we introduce a result which can be applied in general to calculate the Frobenius-Perron dimension of a radical square zero bound quiver algebra. We use this result to introduce a family of abelian categories which produce arbitrarily large irrational Frobenius-Perron dimensions. (Received September 12, 2018)