1120-13-124 **Joseph Gubeladze*** (soso@sfsu.edu), Department of Mathematics, San Francisco State University, San Francisco, CA 94132. *Conductor ideals of affine monoids and K-theory.*

A *positive affine monoid* is a finitely generated additive submonoid of $\mathbb{Z}^r$ for some r, containing no nontrivial subgroup. In analogy with commutative rings, the *conductor ideal* of a positive affine monoid M is the set $\mathbf{c}_{\bar{M}/M} = \{m \in \mathbb{Z}^r : m + \bar{M} \subset M\}$, where $\bar{M}$ is the normaliztion of M in $\mathbb{Z}^r$. It is a non-zero ideal of M. When M is a *numerical monoid*, the ideal $\mathbf{c}_{\bar{M}/M}$ is equivalent to the *Frobenius number* of M. Several people studied conductor ideals of affine monoids in arbitrary dimensions. After a brief survey of such structural results, we will discuss how conductor ideals $\mathbf{c}_{\bar{M}/M}$ appear in the K-theory of monoid rings $R[M]$. The picture is compete for the Grothendieck group K_0 and mostly conjectural for higher groups. (Received February 18, 2016)