

F. Gourdeau, B. E. Johnson and M. C. White, **The cyclic and simplicial cohomology of $l^1(\mathbf{N})$** , *Trans. Amer. Math. Soc.*, 357, (2005) 5097–5113.

Abstract

Let $\mathcal{A} = l^1(\mathbf{Z}_+)$ be the unital semigroup algebra of \mathbf{N} . We show that the cyclic cohomology groups $\mathcal{H}C^n(\mathcal{A}, \mathcal{A}')$ vanish when n is odd and are one-dimensional when n is even ($n \geq 2$). Using Connes' exact sequence, these results are used to show that the simplicial cohomology groups $\mathcal{H}^n(\mathcal{A}, \mathcal{A}')$ vanish for $n \geq 2$. The results obtained are extended to unital algebras $l^1(S)$ for some other semigroups of \mathbf{R} .