

Abstract

We study the representation theory of the increasing monoid. Our results provide a fairly comprehensive picture of the representation category: for example, we describe the Grothendieck group (including the effective cone), classify injective objects, establish properties of injective and projective resolutions, construct a derived auto-duality, and so on. Our work is motivated by numerous connections of this theory to other areas, such as representation stability, commutative algebra, simplicial theory, and shuffle algebras.