

A generalization of the Nakayama functor

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We introduce the notion of a Nakayama functor relative to an adjunction, generalizing the classical Nakayama functor for a finite-dimensional algebra. We show that it can be characterized in terms of an ambidextrous adjunction of monads and comonads. We also study this concept from the viewpoint of Gorenstein homological algebra, and in particular we obtain a generalization of the equality of the left and right injective dimension for a finite-dimensional Iwanaga-Gorenstein algebra. The talk will be illustrated on specific examples.