

Strong tilting of algebras and its iteration

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a joint work with

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Abstract

One important consequence of the existence of a strong tilting module over a finite dimensional algebra is its connection to the finitistic dimension conjecture. That is, if Λ is a finite dimensional algebra and ${}_{\Lambda}T$ is a strong tilting Λ -module, then the left finitistic dimension of Λ is finite and equal to the projective dimension of T . In this talk, by a constructive method, we show that the existence of strong tilting module over Λ depends to the existence of such module over corner algebra $e\Lambda e$, where e is a particular idempotent of Λ . We also show that the iteration process becomes periodic for any finite dimensional algebra that allows infinite strong iteration. This generalizes a result for truncated path algebras due to Birge Huisgen-Zimmermann [1].

Keywords

Strong tilting module, finitistic conjecture.

References

- [1] B. Huisgen-Zimmermann, Dualities from iterated tilting, manuscript (2019).