On linear properties of the Goldie dimension

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The Goldie dimension of a module M is defined as the supremum of all cardinalities λ such that M contains the direct sum of λ non-zero submodules. This gives a generalization of the linear dimension from linear spaces to modules. The linear dimension can be characterized in several other ways and thanks of that it is so useful tool in many studies. In that context it is natural to ask which (or how far) the fundamental properties of the linear dimension can be extended to the Goldie dimension. Problems of that sort were studied in many papers. The aim of the talk is to present some old and new results concerning that topic.