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Finitistic n -self-cotilting modules

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We study a class of modules which can be characterized using a duality theorem, called finitistic n -self-cotilting. Such a module Q can be characterized using dual conditions of some generalizations for star modules: every module M which has a right resolution with n terms isomorphic to finite powers of Q (i.e. M is n -finitely Q -copresented) has a right resolution with $(n + 1)$ terms, and the functor $\text{Hom}_R(-, Q)$ preserves the exactness of all monomorphisms with their ranges finite powers of Q and cokernels n -finitely Q -copresented modules. In the general case, these modules are independent toward other kinds of modules which are characterized using some dualities (w - Π_f -quasi injective modules, costar modules, f -cotilting modules). Closure properties for the classes involved in the duality are studied. In addition, a negative answer for a question of Wei et. al. concerning \star^n -modules is presented.

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