

(n, d) -COCOHERENT RINGS, (n, d) -COSEMIHEREDITARY RINGS AND (n, d) - V -RINGS

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ABSTRACT. Let R be a ring, n be a non-negative integer and d be a positive integer or ∞ . A right R -module M is called $(n, d)^*$ -projective if $\text{Ext}_R^1(M, C) = 0$ for every n -copresented right R -module C of injective dimension $\leq d$; a ring R is called *right (n, d) -cocoherent* if every n -copresented right R -module C with $\text{id}(C) \leq d$ is $(n+1)$ -copresented; a ring R is called *right (n, d) -cosemihereditary* if whenever $0 \rightarrow C \rightarrow E \rightarrow A \rightarrow 0$ is exact, where C is n -copresented with $\text{id}(C) \leq d$, E is finitely cogenerated injective, then A is injective; a ring R is called *right (n, d) - V -ring* if every n -copresented right R -module C with $\text{id}(C) \leq d$ is injective. Some characterizations of $(n, d)^*$ -projective modules are given, right (n, d) -cocoherent rings, right (n, d) -cosemihereditary rings and right (n, d) - V -rings are characterized by $(n, d)^*$ -projective right R -modules. $(n, d)^*$ -projective dimensions of modules over right (n, d) -cocoherent rings are investigated.

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