عنوان مقاله:

ON THE PROJECTIVE DIMENSION OF ARTINIAN MODULES

محل انتشار:

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خلاصه مقاله:

Let $(R, \mathfrak{m})$ be a Noetherian local ring and M, N be two finitely generated R-modules. In this paper it is shown that R is a Cohen-Macaulay ring if and only if R admits a non-zero Artinian R-module A of finite projective dimension; in addition, for all such Artinian R-modules A, it is shown that $\mathrm{pd}_R\, A=\dim R$. Furthermore, as an application of these results it is shown that $\pdd H^i_{{\frak p}R_{\frak p}}(M_{\frak p}, N_{\frak p})\leq \pd H^{i+\dim R/{\frak p}}_{\frak m}(M,N)$ for each ${\frak p}\in \mathrm{Spec} R$ and each integer $i\geq ۰$. This result answers affirmatively a question raised by the present authors in [۱۳].

کلمات کلیدی:

projective dimension, flat dimension, injective dimension, generalized localcohomology module, local cohomology module

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