

ON THE UNMIXEDNESS AND UNIVERSAL CATENARICITY OF LOCAL RINGS AND
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TÓM TẮT:

Let (R, \mathfrak{m}) be a Noetherian local ring and M a finitely generated R -module. Let i be a non negative integer. Consider the following property for the Artinian local cohomology module: $\text{Ann}_R(0 :_{H^i_{\mathfrak{m}}}(M))_{\mathfrak{p}} = \mathfrak{p}$ for all prime ideals \mathfrak{p} containing $\text{Ann}_R H^i_{\mathfrak{m}}(M)$. In this paper, we study this property of $H^i_{\mathfrak{m}}(M)$ in order to investigate the universal catenaricity of the ring $R/\text{Ann}_R M$ and the unmixedness of the ring R/\mathfrak{p} for certain \mathfrak{p} in $\text{Supp} M$. We also characterize this property for $H^i_{\mathfrak{m}}(M)$ and obtain the associativity formulae for multiplicity of this module.