

ON THE ATTACHED PRIMES AND SHIFTED LOCALIZATION PRINCIPLE FOR LOCAL COHOMOLOGY MODULES

Tran Nguyen An

TÓM TẮT:

The author is supported by the Vietnam National Foundation for Science and Technology Development (Nafosted). Let (R, \mathfrak{m}) be a Noetherian local ring and let M be a finitely generated R -module. For an integer $i \geq 0$, the Artinian i -th local cohomology module $H_{\mathfrak{m}}^i(M)$ is said to satisfy the Shifted Localization Principle if

$$\text{Att}_R(H_{\mathfrak{p}}^i(H_{\mathfrak{p}}^{i-\dim R/\mathfrak{p}}(M_{\mathfrak{p}}))) = \{ \mathfrak{q} \in \text{Att}_R(H_{\mathfrak{m}}^i(M)) \mid \mathfrak{q} \subseteq \mathfrak{p} \}$$
 for all $\mathfrak{p} \in \text{Spec}(R)$.

In this paper we study the attached primes of $H_{\mathfrak{m}}^i(M)$ and give some conditions for $H_{\mathfrak{m}}^i(M)$ to satisfy the Shifted Localization Principle.

The author is supported by the Vietnam National Foundation for Science and Technology Development (Nafosted). Let (R, \mathfrak{m}) be a Noetherian local ring and let M be a finitely generated R -module. For an integer $i \geq 0$, the Artinian i -th local cohomology module $H_{\mathfrak{m}}^i(M)$ is said to satisfy the Shifted Localization Principle if
$$\text{Att}_R(H_{\mathfrak{p}}^i(H_{\mathfrak{p}}^{i-\dim R/\mathfrak{p}}(M_{\mathfrak{p}}))) = \{ \mathfrak{q} \in \text{Att}_R(H_{\mathfrak{m}}^i(M)) \mid \mathfrak{q} \subseteq \mathfrak{p} \}$$
 for all $\mathfrak{p} \in \text{Spec}(R)$. In this paper we study the attached primes of $H_{\mathfrak{m}}^i(M)$ and give some conditions for $H_{\mathfrak{m}}^i(M)$ to satisfy the Shifted Localization Principle.