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Craig Huneke, Dan Katz and Tom Marley* (tmarley@math.unl.edu), Department of Mathematics, University of Nebraska-Lincoln, Lincoln, NE 68588-0130. *Are the supports of local cohomology modules always closed?*

Let R be a Noetherian ring and M a finitely generated R -module. Examples due to A. Singh and M. Katzman show that the set of associated primes of a given local cohomology modules $H_I^i(M)$ may be infinite. However, it is not known whether the set of minimal associated primes of $H_I^i(M)$ is always finite, or equivalently, whether the support of $H_I^i(M)$ is always closed. We are able to answer this question affirmatively in some cases, in particular, in the case the ideal has cohomological dimension two. (Received August 24, 2009)