

Associated primes of local cohomology of flat extensions with regular fibers

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In this talk, we will discuss the following question raised by Mel Hochster : let (R, m, K) be a local ring and S be a flat extension with regular closed fiber. Is the set of associated primes of $H_I^i(S)$ that contain mS finite for every ideal $I \subset S$ and every $i \in \mathbb{Z}$? We will explore, using several tools from homological algebra, cases in which the answer is positive.