

## LOCAL COHOMOLOGY MODULES AND RELATIVE COHEN-MACAULAYNESS

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### Abstract

Let  $(R, \mathfrak{m})$  denote a commutative Noetherian local ring and let  $M$  be a finite  $R$ -module. In this paper, we study relative Cohen-Macaulay rings with respect to a proper ideal  $\mathfrak{a}$  of  $R$  and give some results on such rings in relation with Artinianness, Non-Artinianness of local cohomology modules and Lyubeznik numbers. We also present some related examples to this issue.

**Keywords:** local cohomology modules, Lyubeznik numbers, Non-Artinian modules, relative Cohen-Macaulayness.

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