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## AN EMBEDDING FOR THE $E_2$ -TERM OF THE ADAMS SPECTRAL SEQUENCE AT ODD PRIMES

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收稿日期 2004-5-25 修回日期 2005-3-1 网络版发布日期 2006-9-25 接受日期 2005-3-8

摘要

关键词 [Koszul algebras](#) [Cohomology of algebras](#) [Adams spectral sequence](#)

分类号 [55S10](#)

## AN EMBEDDING FOR THE $E_2$ -TERM OF THE ADAMS SPECTRAL SEQUENCE AT ODD PRIMES

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**Abstract** Let  $p$  be an odd prime. In this paper we introduce a quadratic linear  $\mathbb{F}_p$ -algebra  $Q_1$  obtained by suitably changing the generators of  $Q$ , the homogeneous quadratic algebra of cohomology operations in the category of  $H_\infty$ -ring spectra, and study the map induced on cohomology by the quotient  $\bar{\pi}: Q_1 \rightarrow \mathscr{A}_p$ . Like in the case  $p=2$ , it turns out that  $\bar{\pi}^*$  is injective. Thus, its target contains the  $E_2$ -term of the classical Adams spectral sequence as subalgebra. An explicit description of  $\text{Ext}_{Q_1}(\mathbb{F}_p, \mathbb{F}_p)$  is given under the reasonable assumption on  $Q$  to be a Koszul algebra.

**Key words** [Koszul algebras](#) [Cohomology of algebras](#) [Adams spectral sequence](#)

DOI: 10.1007/s10114-005-0704-4

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