ERRATUM TO
"LOCALIZATION OF EQUIVARIANT COHOMOLOGY RINGS"

BY

J. DUFLOT

This note corrects the proof of Theorem 3.8 of [1].

**Theorem 3.8.** If $G$ is finite, the isolated primary ideals of $H_G(X)$ are of the form

$$\theta(A, c) = \ker\left( H_G(X) \to H_{G(A, c)}(c) \right),$$

where $(A, c)$ is a maximal pair of $\mathcal{A}(G, X)$.

**Proof.** Consider the map

$$H_G(X) \to H_{G(A, c)}(c).$$

Let $p^c = p^c_{(A, c)}$ and $p = p_{(A, c)}$ be as in the proof of 3.7. Since $p^c$ is the only associated prime of $H_{G(A, c)}(c)$ (this ring is Cohen-Macaulay by [2], so has no embedded primes, and $p^c$ is the only minimal prime by [3]), we see that \{zero divisors of $H_{G(A, c)}(c)\} = p^c$. (In general, the set of zero divisors in a commutative Noetherian ring is the union of the associated primes.) Therefore, one has

$$H_{G(A, c)}(c) \hookrightarrow \left( H_{G(A, c)}(c) \right)_{p^c}.$$

As shown in the proof of 3.7, $(H_{G(A, c)}(c))_{p^c} = (H_{G(A, c)}(c))_p$ so that

$$\theta(A, c) = \ker\left( H_G(X) \to \left( H_{G(A, c)}(c) \right)_{p^c} \right)$$

$$= \ker\left( H_G(X) \to \left( H_{G(A, c)}(c) \right)_p \right)$$

$$= \ker\left( H_G(X) \to \left( H_{G(A, c)}(c) \right)_p^{W_{G(A, c)}} \right).$$

By Theorem 3.2, this last ideal equals $\ker(H_G(X) \to H_G(X)_p)$.

Now, from commutative algebra one knows that $q$ is an isolated primary component belonging to the minimal prime $p$ in a commutative ring $R$ if and only if

$$q = \ker(R \to R_p). \quad \text{Q.E.D.}$$

Received by the editors October 22, 1984.
It is easy to see that the first sentence of the original "proof" of Theorem 3.8 is not true; in general, there are many ideals in a commutative ring $R$ that are primary for a single minimal prime $p$. For example, $p$ is primary for $p$, and so is the isolated primary component for $p$; of course, these need not be the same.

I would like to think Peter Landweber for pointing out this error and for his version of the above proof.

REFERENCES


Department of Mathematics, Brandeis University, Waltham, Massachusetts 02354

Current address: Department of Mathematics, Colorado State University, Fort Collins, Colorado 80523