

Erratum to: *Homology of zero-divisors*

The statement of Theorem 6.4 in the paper is incorrect. This statement was originally derived from a computation containing a faulty step. Since most of the reasoning is sound, only the corrected formula and computation of the Euler characteristic need to be presented again.

The corrected statement is:

Theorem 6.4.

Let p, q be primes and $r \geq 2$ an integer. Then

$$\chi(\mathbb{Z}/p^r\mathbb{Z} \times \mathbb{Z}/q^2\mathbb{Z}) = 2 - \chi(\mathbb{Z}/p^r\mathbb{Z}) + \sum_{k=1}^{r-1} \chi(\mathbb{Z}/p^k\mathbb{Z}) - r$$

Corrected computation.

$$\begin{aligned} \chi(R \times S) &= \sum_{n=0}^{\infty} (-1)^n u_n(R \times S) \\ &= \sum_{n=0}^{\infty} (-1)^n (u_n^1(R \times S) + u_n^2(R \times S) - u_n^3(R \times S)) \\ &= \sum_{n=0}^{\infty} (-1)^n (u_n^1(R \times S) + u_n^2(R \times S) - u_n^{3,S}(R \times S) - u_n^{3,q}(R \times S)) \\ &= \sum_{n=0}^{\infty} (-1)^n (u_n^{1,0}(R \times S) + u_n^{1,1}(R \times S) + \rho \binom{\rho}{n} + \binom{\rho}{n+1} - u_n(R)) - \sum_{n=1}^{\infty} \sum_{k=1}^{r-1} u_{n-1}(\mathbb{Z}/p^k\mathbb{Z}) - u_0^{3,q}(R \times S) \\ &= \sum_{n=0}^{\infty} (-1)^n (u_n^{1,0}(R \times S) + u_{n+1}^{1,1}(R \times S)) + \sum_{n=0}^{\infty} (-1)^n (\rho \binom{\rho}{n} + \binom{\rho}{n+1}) \\ &\quad - \sum_{n=0}^{\infty} (-1)^n u_n(R) - \sum_{n=1}^{\infty} (-1)^n \sum_{k=1}^{r-1} u_{n-1}(\mathbb{Z}/p^k\mathbb{Z}) - r \\ &= u_0^{1,1}(R \times S) + 1 - \chi(R) + \sum_{k=1}^{r-1} \sum_{n=1}^{\infty} (-1)^{n-1} u_{n-1}(\mathbb{Z}/p^k\mathbb{Z}) - r \\ &= 2 - \chi(R) + \sum_{k=1}^{r-1} \chi(\mathbb{Z}/p^k\mathbb{Z}) - r \end{aligned}$$