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Erratum / Erratum

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# Corrigendum to “Hodge–Lyubeznik numbers”

## Corrigendum à « Nombres de Hodge–Lyubeznik »

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**Abstract.** A Tate twist is missing in the exact sequence of Example (1), leading to incorrect formulas for some Hodge–Lyubeznik numbers, as noticed by Bradley Dirks. We provide the correct formulas.

**Résumé.** Un twist de Tate est manquant dans la suite exacte de l’Exemple (1), induisant des formules incorrectes pour certains nombres de Hodge–Lyubeznik, comme remarqué par Bradley Dirks. Nous donnons les formules correctes.

**Keywords.** Hodge numbers, Lyubeznik numbers, mixed Hodge modules.

**Mots-clés.** Nombres de Hodge, nombres de Lyubeznik, modules de Hodge mixtes.

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The exact sequence of [1, Example (1)] should read

$$H^{s-3}(M) \xrightarrow{L} H^{s-1}(M)(1) \longrightarrow H_{\{0\}}^s(X)(1) \longrightarrow H^{s-2}(M) \xrightarrow{L} H^s(M)(1).$$

The Tate twist in the middle term was mistakenly omitted, leading to incorrect formulas for the Hodge–Lyubeznik numbers computed by means of it. The consequences of this error were noticed by Bradley Dirks. With the exact same reasoning, the formulas for the Hodge–Lyubeznik numbers are:

- In Example (1):
  - (1)  $\lambda_{0,s}^{p,q}(\mathcal{O}_{X,0}) = h^{-p,-q}(H^{s-1}(M)_{\text{prim}})$  for  $2 \leq s \leq d-1$ ;
  - (2)  $\lambda_{r,d}^{p,q}(\mathcal{O}_{X,0}) = h^{p+d-1,q+d-1}(H^{d+r-2}(M)_{\text{coprim}})$  for  $2 \leq r \leq d$ ;
  - (3) all other  $\lambda_{r,s}^{p,q}(\mathcal{O}_{X,0})$  vanish.
- In Example (2):

$$\lambda_{0,4}^{-p,-q}(A_i) = h^{p,q}(H^3(M_i)_{\text{prim}}) = h^{p,q}(H^3(M_i)) - h^{p-1,q-1}(H^1(M_i)).$$

In particular, if  $N_1 = X_3(70, 16, 16, 14, 7, 6)$  we obtain, according to [2],

$$\lambda_{0,4}^{-1,-2}(A_1) = h^{1,2}(H^3(N_1)) = 3365330286081,$$

while if  $N_2 = X_3(56, 49, 8, 6, 5, 4, 4)$ ,

$$\lambda_{0,4}^{-1,-2}(A_2) = h^{1,2}(H^3(N_2)) = 3343868254721.$$

- In Remark (1) on page 220,

$$h^{p,q}\mathcal{K}(-n) = h^{p,q}(H_{\{0\}}^d(X)) = h^{p,q}(H^{d-1}(M)_{\text{prim}}),$$

and  $\mathcal{K}(-n)$  is pure of weight  $d-1$ . It follows that  $\mathcal{Q}(n)$  is pure of weight  $1-d$  and  $h^{p,q}\mathcal{Q}(n) = h^{-p,-q}(H^{d-1}(M)_{\text{prim}})$ .

We take this opportunity to correct a typo: on page 218, two lines after (6), one should read “its restriction to  $U$  is  $\mathbb{Q}_U^H[d](n)$ ”.

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## Declaration of interests

The authors do not work for, advise, own shares in, or receive funds from any organization that could benefit from this article, and have declared no affiliations other than their research organizations.

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