Journal de l'École polytechnique
Mathématiques

Andrea Brini & Karoline van Gemst

Corrigendum: Mirror symmetry for extended affine Weyl groups

Tome 10 (2023), p. 1245-1246.

https://doi.org/10.5802/jep.243

Publié avec le soutien
du Centre National de la Recherche Scientifique

Publication membre du
Centre Mersenne pour l'édition scientifique ouverte
www.centre-mersenne.org
e-ISSN : 2270-518X

Journal de l'École polytechnique
Mathématiques
Tome 10, 2023, p. 1245–1246 DOI: 10.5802/jep.243

CORRIGENDUM: MIRROR SYMMETRY FOR EXTENDED AFFINE WEYL GROUPS

by Andrea Brini & Karoline van Gemst

Abstract. — We correct an error in [1]. There was a typo in the exponent of one of the factors appearing in the expression of the Lyashko–Looijenga degrees in Corollary 5.2; the resulting wrong formula was then used in Table 5.1 to tabulate these degrees for all Dynkin types. We provide here the correct expressions for both Corollary 5.2 and Table 5.1.

Résumé (Corrigendum : Symétrie miroir pour les groupes de Weyl affines étendus)

Nous corrigeons une erreur dans [1]. Il y a une coquille dans l'exposant de l'un des facteurs apparaissant dans l'expression des degrés de Lyashko–Looijenga au Corollaire 5.2 ; la formule erronée qui en résulte est utilisée dans le tableau 5.1 pour lister ces degrés pour tous les types de Dynkin. Nous indiquons ici les expressions correctes pour le corollaire 5.2 et le tableau 5.1.

The formula in the statement of [1, Cor. 5.2] contains a computational error, whereby the exponent of $(\omega_{\overline{k}}, \omega_{\overline{k}})$ in the numerator should have been $\ell_{\mathcal{R}}+1$ (and not $\ell_{\mathcal{R}}$). We give the rectified statement below.

Corollary 5.2. — *The degree of the LL-map of the Hurwitz stratum M_ω^{LG} is*

$$\frac{(\ell_{\mathcal{R}}+1)!(\omega_{\overline{k}}, \omega_{\overline{k}})^{\ell_{\mathcal{R}}+1}}{\prod_{j=1}^{\ell_{\mathcal{R}}}(\omega_j, \omega_{\overline{k}})}.$$

The incorrect formula was used to tabulate the topological degrees for all Dynkin types other than A_ℓ in Table 5.1. We correct those values in the table below.

Acknowledgements. — We became aware of an issue with the formula as presented in [1, Cor. 5.2] after the appearance of [2]. We are very grateful to A. Takahashi for correspondence related to this.

Mathematical subject classification (2020). — 53D45, 14B07, 20H15.
Keywords. — Frobenius manifolds, mirror symmetry, integrable systems.

This project has been supported by the Engineering and Physical Sciences Research Council under grant agreement ref. EP/S003657/2.

Table 5.1. Lyashko–Looijenga degrees for all Dynkin types.

$\mathfrak{R}$	g_ω	n_ω	$d_{g_\omega;\mathsf{n}_\omega}$	$\iota_\omega\big(\mathcal{M}_{\mathfrak{R}}^{\mathrm{DZ}}\big)$	deg(LL)
A_ℓ	0	$(\overline{k}-1,\ell-\overline{k})$	$\ell+1$	$\mathcal{H}^{[\mu]}_{g_\omega,\mathsf{n}_\omega}$	$\dfrac{(\ell+1-\overline{k})^{\ell+1-\overline{k}}(\overline{k})^{\overline{k}}\ell!}{(\overline{k}-1)!(\ell-\overline{k})!}$
B_ℓ	0	$(\ell-2,\ell-2,1)$	$2\ell+1$	$\big(\mathcal{H}^{[\mu]}_{g_\omega,\mathsf{n}_\omega}\big)^{\mu_2}$	$2(\ell+1)\ell(\ell-1)^\ell$
C_ℓ	0	$(\ell-1,\ell-1)$	2ℓ	$\big(\mathcal{H}^{[\mu]}_{g_\omega,\mathsf{n}_\omega}\big)^{\mu_2}$	$(\ell+1)\ell^{\ell+1}$
D_ℓ	0	$(\ell-3,\ell-3,1,1)$	$2\ell+2$	$\big(\mathcal{H}^{[\mu]}_{g_\omega,\mathsf{n}_\omega}\big)^{\mu_2}$	$4\ell(\ell^2-1)(\ell-2)^{\ell-1}$
E_6	5	$(5,5,2,2,2,2,2)$	42	(A.1)	$2^4\cdot 3^7\cdot 5\cdot 7$
E_7	33	$(11,5,3,11,5,$ $3,1,1,3,3)$	130	(A.2)	$2^{14}\cdot 3^4\cdot 5\cdot 7$
E_8	128	$(29,29,14,14,14,$ $14,14,14,9,9,$ $9,9,5,5,4,$ $4,4,4,4,4,$ $2,2,0,0)$	518	[6, 7]	$2^5\cdot 3^6\cdot 5^6\cdot 7$
F_4	4	$(5,5,2,2,2,2)$	36	(3.40); $\big(M^{\mathrm{LG}}_{[100000]_{E_6}}\big)^{\mu_2}$	$2^4\cdot 3^4\cdot 5$
G_2	0	$(1,1,1)$	7	(3.41); $\big(M^{\mathrm{LG}}_{[1000]_{D_4}}\big)^{S_3}$	$2^3\cdot 3^2$

References

[1] A. Brini & K. van Gemst – "Mirror symmetry for extended affine Weyl groups", *J. Éc. polytech. Math.* **9** (2022), p. 907–957.

[2] T. Otani, Y. Shiraishi & A. Takahashi – "The number of full exceptional collections modulo spherical twists for extended Dynkin quivers", 2023, `arXiv:2308.04031`.

Manuscript received 19th September 2023
accepted 28th September 2023

Andrea Brini, School of Mathematics and Statistics, University of Sheffield
S3 7RH, Sheffield, United Kingdom
On leave from CNRS, DR 13, Montpellier, France
E-mail : `a.brini@sheffield.ac.uk`

Karoline van Gemst, School of Mathematics and Statistics, University of Sheffield
S3 7RH, Sheffield, United Kingdom
E-mail : `kvangemst1@sheffield.ac.uk`