Here is a partial list of known significant errors in my published papers, with references to corrections.

1 Significant errors


It was pointed out by P. Sabatino and F. Viviani that the proof of Theorem 3.10 contains a gap. Namely, the argument with the Hessian at the end of the proof of Proposition 3.16 is not, by itself, sufficient to conclude that \( Z \setminus 0 \) is smooth. However, a different proof of Theorem 3.10 has been given in:


See also the correction on p.11 of arXiv:0003009v2.


It was discovered by P. Lee that the proof of Theorem 2.3 is incorrect. Namely, the proof rests on Proposition 5.1, which is false. As a result, the proof of Theorem 8.5 contains a gap, as it rests on the incorrectly proved Theorem 2.3. Similarly, the proof of Proposition 6.1 contains a gap, as it rests on the wrong Proposition 5.1.

In arXiv:0509661v6, these errors are corrected: Propositions 5.1 and 6.1 are deleted, and Theorems 2.3 and 8.5 are stated as conjectures (Namely, Conjectures 2.3 and 6.5, respectively).

Luckily, Conjectures 2.3 and 6.5 were proved by P. Lee in


which effectively corrects the errors in our paper. In fact, he also proved Conjectures 2.4 and 6.6 of arXiv:0509661v6.


I recently discovered that the proof of Lemma 9.7 contains a gap, and hence the proofs of the results on faithfulness of the lifting in Subsection 9.3 are incomplete. Namely, the proof of Lemma 9.7 (used in the proof of Theorem 9.6) says that by Nakayama’s lemma, it suffices
to check the finiteness of a certain morphism \( \phi \) of schemes over \( W(k) \) modulo the maximal ideal \( I \) (i.e., over \( k \)). But it is, in fact, not clear how this follows from Nakayama’s lemma. Namely, finiteness over \( k \) does imply finiteness over \( W(k)/I^N \) for any \( N \geq 1 \), but this is not sufficient to conclude finiteness over \( W(k) \). In fact, the reductivity of the group of twists must be used in the proof.

This is corrected in


See also a correction in math.QA/0203060v11, end of Subsection 9.3.

This also fills the gap in the proof of Theorem 6.1 in


2 Less significant errors


A few mistakes concerning certain KZ twists, which were overlooked in the published version (as found by M. Balagovic), are corrected in the web version, math.QA/0111005v6. The corrections involve Proposition 6.6 and Theorems 8.15(i) and 8.16. Also the statement of Conjecture 8.12 is corrected to include possible changes of sign of values of \( c \).

We note that a similar error occurs in arXiv:math/0509252, Proposition 5.14 by R. Rouquier (and the published version of that paper).


As was noticed by A. Alekseev and E. Meinrenken and later by V. Toledano Laredo, the proof of Theorem 0.1 given in Subsection 1.1 (in particular, Propositions 0.2 and 0.3) apply only to the case when the Casimir element \( t \in S^2 g \) is nondegenerate (i.e., defines a linear isomorphism \( g \to g^* \)). The formulations of Propositions 0.2 and 0.3 are missing that condition. However, the second proof of this theorem, given in 1.2, applies in general.

These corrections are implemented in the latest version of math.QA/0412342.

We note that the linearization theorem for Poisson-Lie structures is proved geometrically in a more general case (namely, coboundary Lie bialgebras) in the paper


Adrien Brochier has discovered that the proof of Proposition 9.7 contains an error, namely the morphism $\chi$ is defined incorrectly. A corrected proof with the right definition of $\chi$ appears in


See also the correction in arXiv:q-alg/9506005v5 after Proposition 9.7.

Also, Theorem 6.2 is not quite correctly formulated. Instead of the category $\mathcal{M}_a$ of $a$-modules considered in this theorem, one should consider the category $\tilde{\mathcal{M}}_a$ of deformation $a$-modules. The functor $F$ in the theorem (from $\mathcal{M}_a$ to the category $\mathcal{R}$ of representations of $\mathfrak{U}_h(a)$) naturally extends to $\tilde{\mathcal{M}}_a$. The correct formulation of Theorem 6.2 says that $F$ is an equivalence of $\tilde{\mathcal{M}}_a$ onto $\mathcal{R}$ (the proof of this is obvious from the results of [6]). In this form, Theorem 6.2 of [6] (=Theorem 6.5 in the arXiv version) for $a$ being the double of a finite dimensional Lie bialgebra is a special case of Theorem 4.1 in


Theorem 4.1 is not correctly formulated. The target category of all Drinfeld-Yetter modules should be replaced with the category of admissible Drinfeld-Yetter modules. This correction is done in Theorem 2.24 of


Proposition 3.13 and Example 3.14 were incorrect in the published version, and are corrected in arXiv:1401.5042v2.

In the definition of the small quantum group in Subsection 5.1, the relations $E^\ell_\alpha = F^\ell_\alpha = 0$ are accidentally omitted for non-simple roots $\alpha$. However, this does not affect the arguments.

In formula (44), there is a misprint: $E_{\lambda\mu}$ should be replaced with $E_{\mu\lambda}$.

Formula before Rem. 4.2.6 contains misprints in the Duke version (but not arXiv): $E_{\lambda+\mu,\lambda}$ missing, and $\mu$ should be $\mu$.


There is an error in the proof of Theorem 1.8(i), where it is erroneously claimed in formula (2.11) that $\psi_g \wedge \psi_h = \psi_{gh}$. This error already seems to occur in a previous paper of Alvarez (reference [Alv] in [10]), where Theorem 1.8(i) of [10] is proved for $c = 0$, i.e., for the semidirect product of a finite group with a Weyl algebra, see [Alv], 3.9.

To correct this, the normalization of $\psi_g$ must be changed, namely, $\psi_g$ should be replaced by

$$\mu_g := \det(1 - g|_{\text{Im}(1-g)})^{1/2} \psi_g.$$  

With this change, the proof of Theorem 1.8(i) of [10] becomes valid, and the same applies to the main result of [Alv].

This correction is implemented in Appendix C (by the authors and myself) to the paper C. Negron, T. Schedler, with an appendix by Pieter Belmans, joint appendix with Pavel Etingof, The Hochschild cohomology ring of the global quotient orbifold, arXiv:1809.08715


In the proof of Proposition 3.6, there is a misprint: Rees($SY$) should be defined as $\prod_{j \geq 0} h^j F_j(SY)$ (i.e., $[[h]]$ should be dropped). More importantly, instead of Rees($SY$) we should consider $S(\text{Rees}(Y))$, where $\text{Rees}(Y) := \prod_{j \geq 0} h^j F_j Y$. Then $S(\text{Rees}(Y))$ is a formal deformation of $S(\gr(Y))$ (a priori not known to be flat), and Rees($SY$) = $S(\text{Rees}(Y))/\text{Torsion}$. Our job is to show that this deformation is in fact flat, i.e., the torsion is zero, so that Rees($SY$) $\cong S(\text{Rees}(Y))$. This is shown as explained in the proof. We are grateful to Kevin Coulembier for this correction.

Also there is an error in Remark 3.3. Namely, the symmetric and exterior powers of $D$ are given by $S^nD = \wedge^nD = D$ if $n \geq 1$ is odd and $S^nD = \wedge^nD = 1 \oplus 1$ if it is even (so it is not always $D$, contrary to what is stated in the published version). This does not affect anything else in the paper.

These corrections have been implemented in the arXiv version of the paper.

In the proof of Corollary 3.5, the same corrections are needed as in the proof of Proposition 3.6 of [11]. They have been implemented in the arXiv version of the paper.


In the example at the end (on p.16 in the arXiv version), it should be assumed that \( I \) is a maximal semisimple subalgebra of maximal rank in \( g \).


Example 4.3: Same correction as in [13] (the subalgebra \( I \) should be assumed maximal).


In the identity after Example 3.18, \( 1 - qt^2 \) should be \( (1 - q) t^2 \). Also in the generating function on the second page of Subsection 3.5, \( \frac{\sinh(z(1 + 1))}{\sinh z} \) should be replaced by \( \frac{\sinh(z(2 + 1))}{\sinh(z(2 + 1))} \). These changes have been made in the arXiv version.


In the published version in Proposition 3.3 and in the proof of Proposition 3.9, \( 2^n \) should be replaced by \( 2^{n+1} \). In the proof of Proposition 3.3, \( d_{n-1,2s} \) should be \( d_{s,n-1} \). The recursion for the function \( f_n(z) \) in this proof should be

\[
 f_n(z) = 1 + \frac{z}{1 - 2z} f_{n-1} \left( \frac{z^2}{(1 - 2z)^2} \right),
\]

i.e., \( z \) in front of \( f_{n-1} \) should be replaced by \( \frac{z}{1 - 2z} \).

In Proposition 3.4 and Corollary 3.5, two cases are missed: \( X = 0 \) in characteristic 2 and \( X \) invertible with braiding acting by \(-1\) on \( X \otimes X \) in characteristic 3.
In the proof of Proposition 3.16, the composition series of $\wedge^2 X$ contains the union of composition series of $\wedge^2 Y, Y \otimes Z, \wedge^2 Z$ (not necessarily equals this union). Also $Y/X$ should be $X/Y$.

These errors and misprints do not affect anything in the paper and are fixed in the arXiv version.