

**ERRATUM TO “NILPOTENT CONNECTIONS AND THE MONODROMY
THEOREM: APPLICATIONS OF A RESULT OF TURRITTIN”**

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The statement of Propostion 5.3 has a wrong sign. The correct statement is

$$(gD)^p = g^p D^p - gD^{p-1}(g^{p-1})D.$$

The error occurs in the proof where it is stated (two lines above (5.3.4)) that “...it is immediately verified by induction on n that $A_{(0,\dots,0)} = 1$ and $A_{(0,\dots,n-1)} = 1$, so that...” The first of these statements is correct, but for $n \geq 2$ one has $A_{(0,\dots,n-1)} = -1$ instead. One computes directly that $A_{(0,1)} = -1$. Indeed, in the notations of the proof, one writes

$$\begin{aligned}(h^{-1}D)^2 &= h^{-1}Dh^{-1}D = h^{-1}(D(h^{-1}) + h^{-1}D)D \\ &= h^{-1}(-h^{-2}D(h) + h^{-1}D)D = h^{-4}((-hD(h))D + h^2D^2),\end{aligned}$$

whence $A_{(0,1)} = -1$.

The induction step then shows correctly that the value of $A_{(0,\dots,n-1)}$ does not change as n grows.

This error of sign does not create any other errors in the paper: the formula with the wrong sign is used only to prove the p -linearity of the p -curvature, and in that proof of p -linearity the erroneous term is subtracted from itself, cf. (5.4.1) and (5.4.2), so the vanishing of the difference is not affected by the sign error.

REFERENCES

[[Ka-Nilp] Katz, N., Nilpotent connections and the monodromy theorem: Applications of a result of Turrittin. Inst. Hautes Études Sci. Publ. Math. No. 39 (1970), 175-232.

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