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

\[(gD)^p = g^p D^p - g D^{p-1} (g^{p-1}) D.\]

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 \(A_{(0,...,0)} = 1\) and \(A_{(0,...,n-1)} = 1\), so that...” The first of these statements is correct, but for \(n \geq 2\) one has \(A_{(0,...,n-1)} = -1\) instead. One computes directly that \(A_{(0,1)} = -1\). Indeed, in the notations of the proof, one writes

\[
(h^{-1} D)^2 = h^{-1} D h^{-1} D = h^{-1} (D(h^{-1}) + h^{-1} D) D
= h^{-1} (-h^{-2} D(h) + h^{-1} D) D = h^{-1} (-h D(h) + h D D),
\]

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

The induction step then shows correctly that the value of \(A_{(0,...,n-1)}\) 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


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