THREE CORRECTIONS TO “G2 AND HYPERGEOMETRIC SHEAVES”

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(1) In the statement of Theorem 9.1, the hypergeometric sheaf named in case 5), when \( p = 2 \), should be

\[ \mathcal{H}(\psi; \text{all characters of order dividing 9 except two inverse characters of order nine}; \emptyset), \]

not

\[ \mathcal{H}(\psi; \text{all characters of order dividing 9 except two inverse characters of order nine}; \chi_{\text{quad}}). \]

(2) Replace the proof of Lemma 10.1 by the following.

**Proof.** Since \([7] \ast \mathcal{H}\) has \( G_{\text{geom}} = L_2(13) \), and \([7]\) is a Galois covering of \( \mathbb{G}_m \otimes \overline{k} \) by itself, the \( G_{\text{geom}} \) for \( \mathcal{H} \) (lies in \( G_2 \) and) contains \( L_2(13) \) as a normal subgroup. But \( L_2(13) \) is its own normalizer in \( G_2 \): indeed, its normalizer is a finite primitive irreducible subgroup of \( G_2 \) which contains \( L_2(13) \), so has order divisible by 13, so by classification must be \( L_2(13) \). Thus \( \mathcal{H} \) has \( G_{\text{geom}} = L_2(13) \). So also the twist \( \mathcal{F} \) has \( G_{\text{geom}} = L_2(13) \). Its \( G_{\text{arith}} \), which lies in \( SO(7) \) and normalizes \( G_{\text{arith}} \), is then a finite primitive subgroup of \( G_2 \) which contains \( L_2(13) \), so again by classification must itself be \( L_2(13) \). \( \square \)

(3) Replace the first two sentences in the proof of Lemma 10.2 by the following.

**Proof.** Since \([7] \ast \mathcal{H}\) has \( G_{\text{geom}} = U_3(3) \), and \([7]\) is a Galois covering of \( \mathbb{G}_m \otimes \overline{k} \) by itself, the \( G_{\text{geom}} \) for \( \mathcal{H} \) (lies in \( G_2 \) and) contains \( U_3(3) \) as a normal subgroup of index dividing 7. But the normalizer of \( U_3(3) \) in \( G_2 \) is \( U_3(3).2 \); indeed, the normalizer is a finite primitive irreducible subgroup of \( G_2 \) which certainly contains \( U_3(3).2 \), so by classification must be \( U_3(3).2 \). Thus we have

\[ U_3(3) \subset G_{\text{geom}} \subset U_3(3).2. \]

\( \text{Date: January 24, 2016.} \)
As the index of $U_3(3)$ in $G_{\text{geom}}$ divides 7, it follows that $G_{\text{geom}} = U_3(3)$. So also the twist.... □

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