ERRATA AND ADDITIONS TO:

LINEAR ALGEBRAIC GROUPS AND FINITE GROUPS OF LIE TYPE

GUNTER MALLE AND DONNA TESTERMAN

Section 3
p.23, l.7: $\chi_1^{a_1} \cdots \chi_n^{a_n}$ should read $a_1\chi_1 + \cdots + a_n\chi_n$
p.23, l.-5; l.-3, l.-1: same

Section 8
p.61, l.18: Then by Theorem 8.17(h), $Z = Z(G)$ lies ...
p.61, l.-12: As shown in Theorem 8.17(f) ...

Section 9
p.64, proof of Prop. 9.2: Axiom (R4) already follows from Lemma 8.19
p.70, l.14: For each semisimple root system ...
p.71, Prop. 9.15: add the assumption 'if $\gcd(\mathrm{char}(k), |\Lambda(\Phi)|) = 1$' to the last half sentence
p.72, l.1 of Tab. 9.2: the description SL_n/Z_d in the last column is only valid when $\gcd(\mathrm{char}(k), d) = 1$
p.73, l.8-10: Omit the parenthetical remark

Section 10
p.75, l.12: $\mathbf{G}_\mathrm{a}$ should read $\mathbf{G}_\mathrm{m}$
p.79, l.-11: $s_\alpha x$ should read $s_\alpha w$
p.80, l.-14: $2(x, \alpha)\alpha$ should be $2(x, \alpha)/(\alpha, \alpha)\,\alpha$
p.80: omit Exercise 10.37

Section 11
p.85: the argument in the proof of Prop. 11.5 is incomplete; it needs some form of the commutator relations as in Thm. 11.8
p.91, l.-2: U_w^- should be defined as $\prod_{\substack{\alpha\in\Phi^+ \\ w^{-1}\alpha\in\Phi^-}} U_\alpha$
p.92, Thm 11.17: $W = N/(B \cap N)$

Section 12
p.95, l.14: $W = N_G(T)/T$

Section 16
p.132, l.-6: $\in$ should be $\subseteq$

Section 20

p.173, Ex. 20.7: $[L, L]$ should be $[L_I, L_I]$

p.174, Ex. 20.10: the matrix should read $\begin{pmatrix} 1 & 1 & 0 & 0 \\ 0 & 1 & 1 & 0 \\ 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 1 \end{pmatrix}$

p.175, Ex. 20.13(d): 'basis' should read 'base'

p.178, Ex. 20.23: $\wedge^2(V)$ should be $S^2(V)$

Section 21

p.183, Exmp. 21.4(1): Steinberg endomorphisms on $\mathbf{G}_{\mathrm{m}}$ are of the form $c \mapsto c^{\pm q}$, on $\mathbf{G}_{\mathrm{a}}$ of the form $c \mapsto ac^q$

p.186, l.-14: $V^F/G^F \to G_v$, $g \mapsto g^{-1}F(g)$ should be $V^F/G^F \to G_v/\sim_F$, $g.v \mapsto g^{-1}F(g)$

Section 22

p.189, l.-1: ϕ induces ρ^{-1} on Φ^+ *up to positive scalars*

p.192, proof of 22.7: our proof uses 9.15 and thus is only valid when $\gcd(\mathrm{char}(k), |\Lambda(\Phi)|) = 1$. For the general case see: R. Steinberg, *Endomorphisms of Linear Algebraic Groups*, 9.16

p.192, Example 22.8: the characterization of descending Steinberg endomorphisms is only valid when $\gcd(\mathrm{char}(k), |\Lambda(\Phi)|) = 1$

Section 23

p.199, l.-13: $\Delta_F := \{\alpha_\omega \mid \omega = \Phi_I^+ \text{ for an } F\text{-orbit } I \subseteq S\}$

Section 25

p.219, Prop. 25.2: F-stable

p.226, Th. 25.16: the proof is incomplete. For a correct proof see II, 5.16 in: T. Springer, R. Steinberg, Conjugacy classes. In: *Seminar on Algebraic Groups and Related Finite Groups.* Lecture Notes in Mathematics, 131. Springer, 1970.

Section 27

In order for Th. 27.4 and 27.5 to be more meaningful, $\mathrm{Cl}(V)$ in Table 27.1 for $\mathrm{GO}_{2n}^{\pm}(q)$ should be defined as the commutator subgroup of $\mathrm{SO}_{2n}^{\pm}(q)$.

Section 29

p.252, l.-7: $|\ker(\pi)|$

p.252, l.-6: Table 9.2

p.261, l.4: $3 \dim M$

p.262, l.1: in part (b), the restrictions on q from part (a) apply

Section 30

p.264, l.5: G_v° should be G

p.265, l.-3: x^n should be x^i

Appendix A

p.278, Cor. A.26(a): Δ_i should be Δ_I

Appendix B

p.286, l.5: A is the closure of a connected component of the complement
p.291, Ex. B.22: the distinction between maximal non-closed and non-closed maximal subsystems is not made clear

Appendix C

p.299, l.-4: $\Delta_F := \{\alpha_\omega \mid \omega = \Phi_I^+ \text{ for an } F\text{-orbit } I \subseteq S\}$

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