

**Corrections to  
Cohomological Induction and Unitary Representations,  
Chapters I to XII and the Four Appendices**

In the corrections below, allowance needs to be made for the difference between the typesetting process for the book and the typesetting process for this file. The book used Times fonts, and this file uses Computer Modern fonts.

Page 184, line 9. Change “ $P_j(V \otimes_{\mathbb{C}} \bigwedge^m \mathfrak{c})^c \cong P_{m-j}(V^c)$ ” to “ $P_j(V \otimes_{\mathbb{C}} (\bigwedge^m \mathfrak{c})^*)^c \cong P_{m-j}(V^c)$ ”.

Page 185, line 5. Change “ $H_j(\mathfrak{g}, K; V \otimes_{\mathbb{C}} \bigwedge^m (\mathfrak{g}/\mathfrak{k}))^* \cong$ ” to “ $H_j(\mathfrak{g}, K; V \otimes_{\mathbb{C}} (\bigwedge^m (\mathfrak{g}/\mathfrak{k}))^*)^* \cong$ ”.

Page 185, line 16. Change “ $(\Pi_j(V \otimes_{\mathbb{C}} \bigwedge^m (\mathfrak{k}/\mathfrak{l})))^c \cong$ ” to “ $(\Pi_j(V \otimes_{\mathbb{C}} (\bigwedge^m (\mathfrak{k}/\mathfrak{l}))^*))^c \cong$ ”.

Page 185, line 27. Change “ $H_j(\mathfrak{u}, V \otimes_{\mathbb{C}} \bigwedge^m \mathfrak{u})^* \cong$ ” to “ $H_j(\mathfrak{u}, V \otimes_{\mathbb{C}} (\bigwedge^m \mathfrak{u})^*)^* \cong$ ”.

Page 354, line –2. Change “ $\Phi(u)(\text{ad } X)$ ” to “ $\Phi(u)((\text{ad } X))$ ”.

Page 358, 3rd display. Change this so that it becomes the following display and sentence fragment:

$$\begin{aligned} & “uX \otimes (X_1 \cdots X_n \otimes z) - u \otimes X(X_1 \cdots X_n \otimes z) \\ & = uX \otimes X_1 \cdots X_n \otimes z - u \otimes (\text{ad } X)(X_1 \cdots X_n) \otimes z - u \otimes X_1 \cdots X_n \otimes Xz \\ & \mapsto uX X_1 \cdots X_n \otimes z - u(\text{ad } X)(X_1 \cdots X_n) \otimes z - uX_1 \cdots X_n \otimes Xz + M_{n-1} \\ & = uX X_1 \cdots X_n \otimes z - u(\text{ad } X)(x_1 \cdots X_n) \otimes z - uX_1 \cdots X_n X \otimes z + M_{n-1} \\ & = M_{n-1}, \end{aligned}$$

the last equality holding since  $XX_1 \cdots X_n - (\text{ad } X)(X_1 \cdots X_n) - X_1 \cdots X_n X = 0$ .”

Page 374, line 7. Change “Then  $F \otimes_{\mathbb{C}} Z$  has” to “Then any nonzero  $U(\mathfrak{l})$  submodule of  $F \otimes_{\mathbb{C}} Z$  has”.

Page 374, line –14. Change “ $h_{\delta(\mathfrak{u})} = h_{\delta(\mathfrak{u})}$ ” to “ $h_{\delta(\mathfrak{u})}$ ”.

Page 374, line –2. Change “it coincides with  $F \otimes_{\mathbb{C}} Z^{\#}$ ” to “it is contained in  $F \otimes_{\mathbb{C}} Z^{\#}$ ”.

Page 375, line 8. Change “ $(\lambda + \delta(\mathfrak{u}))(\gamma(z))$ ” to “ $(\lambda + \delta(\mathfrak{u}))(\gamma(z))x$ ”.

Page 418, display (6.43a). Change “ $C(K)$ ” to “ $R(K)$ ”.

Page 420, line –13. Change “(6.45)” to “(6.45a)”.

Page 446, line –7. Change “ $e_{\chi} = P_{\chi}(V)$ ” to “ $e_{\chi}V = P_{\chi}(V)$ ”.

Page 474, line 6. Change “ $X_{\alpha} = -2f$ ” to “ $X_{-\alpha} = -2f$ ”.

Page 493, statement of Lemma 7.140, second sentence. Change “Then  $F \otimes_{\mathbb{C}} Z$  has a nonzero  $U(\mathfrak{g})$  submodule with an infinitesimal character” to “Then every nonzero  $U(\mathfrak{g})$  submodule of  $F \otimes_{\mathbb{C}} Z$  has a nonzero  $U(\mathfrak{g})$  submodule with an infinitesimal character”.

Page 493, proof of Lemma 7.140. Change the proof so that it reads:

“PROOF. Let  $M$  be a nonzero  $U(\mathfrak{g})$  submodule of  $F \otimes_{\mathbb{C}} Z$ . Theorem 7.133 says that  $F \otimes_{\mathbb{C}} Z$  is  $Z(\mathfrak{g})$  finite, and consequently  $M$  is  $Z(\mathfrak{g})$  finite. By Proposition 7.20,  $M$  has a nonzero  $U(\mathfrak{g})$  submodule  $N$  with a generalized infinitesimal character. In turn, Corollary 7.27 provides a nonzero  $U(\mathfrak{g})$  submodule  $N$  of  $M$  with an infinitesimal character.”

Page 522, line 1. Change “§9” to “§10”.

Page 662, line -3. Change “ $\int_{\mathfrak{g}}$ ” to “ $\int_G$ ”.

Page 760, line 5. Change “ $X'_K(\xi, \nu)$ ” to “ $X'_{L \cap K}(\xi_L, \nu)$ ”.

Page 760, line 9. Change “ $X'_K(\xi, \nu)$ ” to “ $X'_{L \cap K}(\xi_L, \nu)$ ”.

Page 814, lines -3 to -1. Delete the sentence “On this level the topics of this section are not really part of homological algebra, but their applications intersect with it.”

8/23/05