ERRATA AND MISPRINTS FOR BOOK "DIFFEOLOGY"

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Misprints and Errata in Articles.

Art. 1.54, Page 30, line 2: read “P : U → X’”. In Proof, line 3, read “a plot P in X’”.

Art. 1.57, Page 34, line 5: read “C∞(X,X’)” instead of “C∞(X,Y)”.

Art. 2.15, Page 57, line 4: read f−1 ◦ P instead of f−1 ◦ P’.

Art. 2.16, Page 59, line 3: read “P(0) = x” instead of “P(0) = x’”.

Art. 3.12, Page 69, line 3: read “L(E,E’) = L∞(E,E’)” instead of “L∞(E,E’) = L∞(E,E)’”.

Exercise 72, Pages 74-75 and Solution to Exercise 72, p. 387: The theorem attributed to Boman is actually a generalization of the Boman’s theorem due to Richard Hain and Alfred Frölicher in:


Art. 4.8, Page 86, line 12: read “from E to X” instead of “from E to M”.

Art. 6.27, Page 146, line 4: read

\[ \int_{a_1}^{b_1} dx_1 \cdots \int_{a_{p-2}}^{b_{p-2}} dx_{p-2} F[x_1 \cdots x_{p-2}](a_{p-1})(a_p), \]

Art. 6.32, Page 149, line 10 (and in Proof, line 3): read “f* : Ωk(X’) → Ωk(X)”.

Art. 6.70, Page 193, line 2 before end: read

\[ \int_{I^p} (\delta\alpha)(\sigma)(\tau)(e_1) \cdots (e_p) dr_1 \wedge \cdots \wedge dr_p, \]

Art. 6.91, Page 212, line 4: read “Paths(X,x0,*)” instead of “X Paths(X,x0,*)”.

Art. 8.5, Page 236, line 16: read “σ(x,y) ∙ σ(y,z) = σ(x,z)” instead of “σ(x,y) ∙ σ(x,z) = σ(x,z)”.

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Art. 8.42, Page 293, line 4, read “class*_{\omega}(\lambda) = \mathcal{K}\omega” instead of “class*_{\omega}(\lambda) = \mathcal{K}\omega”.

Art. 9.12, Page 311, § 3) line 1, read “\mathcal{G}^* / \Gamma” instead of “\mathcal{G} / \Gamma”.

Art. 9.20, Page 321 (and in Proof, line 9), read “\delta r” instead of “\delta v”.

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Misprints and Errata in Proofs.

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Proof/Art. 1.32, Page 17, line 7: read “f^*(\mathcal{D}') \subset \mathcal{D}” instead of “\mathcal{D} \subset f^*(\mathcal{D}')”.

Proof/Art. 1.43, Page 24, line 6: read “Thus, f \circ P” instead of “Thus, P \circ f”.

Proof/Art. 1.73, Page 44, line 8: read “neighborhood W of s” instead of “neighborhood W of r”. Line 16 read W' = \mathcal{Q}^{-1}(\mathcal{V}) \cap W instead of \mathcal{V}' = \mathcal{Q}^{-1}(\mathcal{W}) \cap \mathcal{V}.

Proof/Art. 1.74, Page 45, line 3: read f^*(\mathcal{G}') instead of f^*(\mathcal{G}).

Proof/Art. 1.76, Page 46, line 6: read \pi_{\mathcal{F}} \circ Q instead of \pi \circ Q.

Proof/Art. 2.2, Page 52, line 2: read Q = f \circ P : P^{-1}(A) \to Y instead of Q = f \circ P : P^{-1}(A) \to X.

Proof/Art. 2.10, Page 55, line 5 and 13: read f : A \to X' instead of f : A \to X.

Proof/Art. 4.3, Page 80, D3 line 7: read “F^{-1} \circ P \circ Q : (P \circ Q)^{-1}(F(U)) \to U!”.

Proof/Art. 4.6, Page 83, line 9: read “\pi \circ \phi = F \mid V” instead of “F \circ \phi = F \mid V”.

Proof/Art. 4.9, Page 88, last centered formula, line 4 before end: read “X \in \mathcal{H}_{\mathcal{R}} - \{0\}” instead of “X \in \mathcal{H} - \{0\}”.

Proof/Art. 4.11, Page 91, line 15 and 17: read “j_k^{-1}(\zeta_{\alpha})” and “j_k^{-1}(\epsilon_{\alpha})” instead of “j_k^{-1}(\zeta_{\alpha})” and “j_k^{-1}(\epsilon_{\alpha})”. And Page 92, line 4: read “\mathcal{H}_{\mathcal{C}}” instead of “\mathcal{H}”.

Proof/Art. 4.16, Page 97, line 18: read “\phi” instead of “\phi_{\Gamma}”.

Proof/Art. 5.9, Page 108, last line: read “\text{comp}_{\#}(f)” instead of “\text{comp}(f)”.

Proof/Art. 6.15, Page 134, lines 5, 6 and 7, read

\[
ab = \frac{k}{\text{sgn}(\epsilon)} \sum_{\sigma' \in \mathcal{P}_{p+q}} \text{sgn}(\sigma') \times B(x_{\sigma'(1)} \cdots x_{\sigma'(q)} \times A(x_{\sigma'(q+1)} \cdots x_{\sigma'(q+p)})
\]

\[
= \frac{k}{\text{sgn}(\epsilon)} \sum_{\sigma' \in \mathcal{P}_{p+q}} \text{sgn}(\sigma') \times B(x_{\sigma'(1)} \cdots x_{\sigma'(q)} \times A(x_{\sigma'(q+1)} \cdots x_{\sigma'(q+p)})
\]

\[
= \text{sgn}(\epsilon) \times \text{ba}.
\]

Proof/Art. 6.69, Page 192, line 3 and 4: read

\[
= \sum_{k=1}^{p} (-1)^{k} \left[ \int_{I_{p-1}} j_k(0)^*(\alpha(\sigma)) - \int_{I_{p-1}} j_k(1)^*(\alpha(\sigma)) \right]
\]

\[
= \sum_{k=1}^{p} (-1)^{k} \left[ \int_{I_{p-1}} j_k(0)^*(a) - \int_{I_{p-1}} j_k(1)^*(a) \right]
\]
Proof/Art. 6.70, Page 195, line 4 before end: read
\[= \sum_{k=1}^{p} (-1)^{k-1} \frac{\partial a_k(0,r)}{\partial r^k} \, dr^1 \wedge \cdots \wedge dr^k \wedge \cdots \wedge dr^p\]

Proof/Art. 8.11, Page 244, line 6: read “[x', k_x \circ g^{-1}_{x'} \circ h_{x'}^{-1}(t')]” instead of “[x', k_x \circ g^{-1}_{x'} \circ h_{x'}^{-1}(t')" (a closing bracket was missing).

Proof/Art. 8.30, Page 272, line 14: read “(k(\tilde{x}), f(k(\tilde{x})))" instead of “(k(\tilde{x}), f(k(\tilde{x})))" (a closing parenthesis was missing).

Proof/Art. 9.11, Page 311, line 2, read “\(\hat{p}^* \big[ K(d\alpha) \big] = \)" instead of “\(K(d\alpha) = \)".

Proof/Art. 9.12, Page 313, line 1, read “\(\mu'(y) - \mu'(x) = h^*_f \circ \mu(y) - h^*_f \circ \mu(x)\)".

Proof/Art. 9.23, Page 324, the line before the last line: read “\(\pi/2 \)" instead of “\(2\pi/3 \)".

Proof/Art. 9.26, Page 326, § a) line 1: read “holonomy \(\Gamma\)" instead of “'holonomy of \(\Gamma\)".

Proof/Art. 9.27, Page 332, § 5. line 4: read “\(\hat{0}^*(\lambda)\)" instead of “\(\hat{0}^*(\alpha)\)".

Proof/Art. 9.34, Page 348, line 9: read “\(u' = \phi'(t)\)".

Misprints and Errata in Solutions of Exercises.

Solution to Exercise 2, Page 355, line 9: read “the axiom D2 is satisfied" instead of “the axiom D2' is satisfied".

Solution to Exercise 5, Page 357, line 13: read “\(F'(x_0 + q) = F'(x_0)\)".

Solution to Exercise 15, Page 362, § 2), line 5: read “\(\lim_{t \to 0 :^+} j_p^*(t) = 0\)".

Solution to Exercise 24, Page 365, line 14: read “\(\lim_{x \to 0} f(x) = 0\)" instead of “\(\lim_{x \to 0} = 0\)".

Solution to Exercise 27, Page 366, line 4 before end of page: read “\(\frac{a \cos_k: [0, 1] \to [k\pi, \pi + k\pi]}{a \sin_k: [0, 1] \to -\pi/2 + k\pi, \pi/2 + k\pi] \)".

Solution to Exercise 62, Page 383, line 19: read “Note that this construction gives an idea about the difference between a smooth relation and a smooth map from a diffeological space \(X\) to another \(X'\) (a few words were missing)'.

Solution to Exercise 76, Page 389, § 2) line 5: read “\(\hat{\beta} \to \hat{\beta} \circ T_n^{-1} \)"; par. 3) line 3: read “\(\mathcal{E}_1^n = \{ (1, u_2) \mid u_2 \in \mathbb{R} \} \)".

Solution to Exercise 80, Page 391, line 5 before end: read “\(f \circ F \in \mathcal{C}^\infty(\mathbb{R}^n, \mathbb{R}) \)" instead of “\(P \circ F \in \mathcal{C}^\infty(\mathbb{R}^n, \mathbb{R}) \)".

Solution to Exercise 120, Page 410, expression of \(\sigma(t)(X(\theta))\), the minus sign (-) in the matrix of rotation \(2\pi t\) is misplaced, read
\[\sigma(t)(X(\theta)) = \begin{pmatrix} \cos(2\pi t) & -\sin(2\pi t) \\ \sin(2\pi t) & \cos(2\pi t) \end{pmatrix} \begin{pmatrix} \cos(\theta) \\ \sin(\theta) \end{pmatrix} = \begin{pmatrix} \cos(2\pi t + \theta) \\ \sin(2\pi t + \theta) \end{pmatrix} \).

Solution to Exercise 136, Page 419, last centered formula, read

\[ \int_{\sigma} \omega = \sum_{i=1}^{4} \int_{\gamma_i} \lambda = x_4(1) - x_1(0) = x_4(1) \in \Gamma. \]

References

http://www.ams.org/bookstore-getitem/item=SURV-185

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