ERRATA to "INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS" (2nd ed.)

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Additional corrections will be gratefully received at `folland@math.washington.edu` .

Page 2, line −7: $a_n \quad \to \quad \alpha_n$

Page 3, line 1 after "Function Spaces": dente $\to$ denote

Page 7, proof of Prop. 0.6, line 4: $re^{-r^2} \quad \to \quad re^{-\pi r^2}$

Page 12, line 14: $e^{1/(1-t^2)} \quad \to \quad e^{1/(t^2-1)}$

Page 13, third line of proof of Theorem 0.19: take $\zeta_j = \psi\phi_j/\Phi$, where $\psi \in C_c^\infty(\bigcup_1^N W_j)$ and $\psi = 1$ on K.

Page 16, line 5: reamins $\to$ remains

Page 18, line −6: graddaddy $\to$ granddaddy

Page 43, second-to-last displayed equation: $\partial_j^t \quad \to \quad \partial_t^j$

Page 43, last displayed equation: $|\alpha|_j \quad \to \quad |\alpha_j|$

Page 61, Lemma 1.53: You can replace $(d/2)^k$ by d^k, and the proof is trivial. (Exercise!)

Page 67, 3rd line of proof of Theorem 2.1: $\widehat{f} \quad \to \quad \widehat{u}$

Page 69, line 2: $C^1 \quad \to \quad C^2$

Page 75, display (2.19), second formula: $\pi \quad \to \quad 4\pi$

Page 77, line −7: Insert "the final paragraph of" before "§4B."

Page 84, line 12: (2.31) $\to$ (2.32)

Page 87, line 7: $\delta(x, y) \quad \to \quad \delta(x - y)$

Page 87, first line after Claim (2.38): calleed $\to$ called

Page 91, line 1: (2.37) $\to$ (2.40)

Page 97, second display in proof of Theorem 2.48: $\omega_{n-1} \quad \to \quad \omega_n$

Page 97, next line after preceding item: (2.44) $\to$ (2.46)

Page 99, line −10: $P_k\Delta\overline{P}_j \quad \to \quad \overline{P}_k\Delta P_j$

Page 100, line −10: ser $\to$ set

Page 100, line −1: proerties $\to$ properties

Page 105, lines 9 and 14: $\dfrac{n-1}{r} \quad \to \quad \dfrac{n-1}{r}f'(r)$

Page 109, Exercise 5, Hint: $e^{i\theta} \quad \to \quad e^{ik\theta}$

Page 112, line −5: corvilinear $\to$ curvilinear

Page 113, line 11: $\frac{\partial^2 u}{\partial y_j^2} \quad \to \quad \frac{\partial^2 U}{\partial y_j^2}$

Page 118, Remark, line 2: $C^1(\overline{\Omega}) \quad \to \quad C^2(\overline{\Omega})$

Page 119, last line of proof of Prop. 3.6: right $\to$ left

Page 121, Proposition (3.10), line 5: $\|f\|_\infty \to \|f\|_p$

Page 121, line -3: (3.11) $\to$ (3.10)

Page 125, line 12: $\nu(x)\cdot y \to \nu(x)\cdot(y-x)$

Page 133, Exercise 1: The asserted formula for $u(x)$ should be multiplied by R^{n-1} (including the case $n=2$).

Page 134, Exercise 2: The integrand of the second integral should be $f(y)N(y)$.

Page 137, line 1: (3.35) $\to$ (3.36)

Page 137, 2nd paragraph, lines 5 and 9: $\phi = \partial_{\nu_-}u \to \phi = -\partial_{\nu_-}u$

Page 137, 2nd paragraph, lines 6 and 8: The integrals on the right sides of both equalities need minus signs ($\int \to -\int$).

Page 141, line -9: in in $\to$ in

Page 145, line 4: $K(x,t) \to K(x-x_0,\, t_0-t)$ (two places)

Page 150, lines 1 and 2: $k_\psi \to \kappa_\psi$

Page 157, line 4: 3H $\to$ 2H

Page 173, formula (5.22): $\frac{1}{1\cdot 3\cdots(n-1)} \to \frac{2}{1\cdot 3\cdots(n-1)}$ and $\int_{|y|=1} \to \int_{|y|\le 1}$

Page 174, formula (5.24): $\partial_t u - \Delta u \to \partial_t^2 u - \Delta u$

Page 175, line 4 and line -3: $\partial_t v - \Delta v \to \partial_t^2 v - \Delta v$

Page 176, formula (5.27): $\phi \in C_c^\infty \to \psi \in C_c^\infty$

Page 177, line -6: $\partial_t \widehat{u}(\xi,t) \to \partial_t \widehat{u}(\xi,0)$

Page 181, 4th line before (5.32): if $\to$ of

Page 182, Exercise 1: (4.19) and (4.20) $\to$ (5.19) and (5.20)

Page 184, formula (5.33), first line: $\partial_t u \to \partial_t^2 u$

Page 192, line 9: if $\to$ of

Page 192, line -3: at as $\to$ as

Page 194, line 3 of Proof: $\|f\|_s \to C\|f\|_s$

Page 195, next-to-last line of Remark 1: Example 1 $\to$ Example 2

Page 201, lines 9 and 11: $f_{k_j} \to \widehat{f}_{k_j}$

Page 203, line -8: $(1+t^2)^{s-1)/2} \to (1+t^2)^{(s-1)/2}$

Page 204, line -4: $u \to f$

Page 205, lines 5, 7, and 8: $u \to f$

Page 207, line 2: $\|\phi\|_{s-x} \to \|\phi\|_{s+x}$

Page 208, line 6: There should be no restriction on the support of g in this formula. However, let ϕ be a function in $C_c^\infty(\Theta^{-1}(\Omega_1'))$ with $\phi = 1$ on $\Theta^{-1}(\Omega_0')$; then $\int (f\circ\Theta)\overline{g} = \int (f\circ\Theta)\overline{\phi g}$, so one can replace g by ϕg in the subsequent argument. Since the map $g \mapsto \phi g$ is bounded on H_s for all s, this yields the desired estimate in the end.

Page 208, line -5: ony $\quad\to\quad$ any

Page 210, formula (6.27): $|\alpha| \le k \quad\to\quad |\alpha| = k$

Page 212, lines 9 and 10: $|\alpha| \le k \quad\to\quad |\alpha| = k$

Page 216, line -2: $Lu \quad\to\quad P(D)u$

Page 218, line 2: (6.30) $\quad\to\quad$ (6.33) $\quad$ and $\quad Lu \quad\to\quad P(D)u$

Page 224, line 8: $\displaystyle\int_N (r) \quad\to\quad \int_{N(r)}$

Page 225, line 1: if $\quad\to\quad$ of

Page 225, Theorem (6.47): $S \quad\to\quad \partial\Omega$ $\quad$ (two places)

Page 226, Theorem (6.51), line 2: $\partial^\alpha u \quad\to\quad \partial^\alpha f$

Page 227, Proposition (6.52): (1) In the first sentence, add the hypothesis $|\alpha| = k+1$. (2) On both sides of the displayed inequality, the norm $\|\cdot\|_{k,N(r)}$ should be $\|\cdot\|_{0,N(r)}$.

Page 227, proof of Proposition (6.52): (6.21) $\quad\to\quad$ (6.20)

Page 227, Exercise 1: Ω should be $\{re^{i\theta} : -\pi < \theta < \pi,\ \frac{1}{2} < r < 1\}$.

Page 229, proof of Proposition (7.1), line 7: $P_{\xi'}(x) \quad\to\quad P_{\xi'}(z)$

Page 231, display before (7.3): $\partial^\alpha u \quad\to\quad \partial^\beta u$

Page 233, line -1: $\alpha_n \le j+1 \quad\to\quad \alpha_n \ge j+1$

Page 235, line -6: (5.6) $\quad\to\quad$ (7.6)

Page 245, line -9: Put absolute value signs around the whole sum.

Page 245, lines -8 and -6: $\|u\|_{m,\Omega} \quad\to\quad \|u\|^2_{m,\Omega}$

Page 248, lines 2 and 3 of section E: $X \quad\to\quad \mathfrak{X}$

Page 272, line -7: distibution $\quad\to\quad$ distribution

Page 273, line 9 of proof: $|\alpha| - m + j \quad\to\quad m - |\alpha| + j$

Page 274, line 2: $\phi = 1$ on sing supp $u \quad\to\quad \phi = 1$ on a neighborhood of sing supp u

Page 275, Proposition 8.11(a): the set $\Omega - \Omega = \{x - y : x, y \in \Omega\} \quad\to\quad$ the set Ω

Page 275, proof of Prop. 8.11, line 3: $\Omega - \Omega \quad\to\quad -\Omega + x$ $\quad$ (2 places)

Page 275, proof of Prop. 8.11: Replace the material beginning with "Moreover" by the following: Moreover, if Ω is dense, then so is $-\Omega + x$. Thus, for each $x \in \Omega$, $p_2^\vee(x,\cdot)$ vanishes on a dense set and so vanishes identically; hence so does $p(x,\cdot)$. On the other hand, if Ω is not dense, we can take $p(x,\xi) = \psi(x)e^{-2\pi i x\cdot\xi}\widehat{\phi}(-\xi)$ where $\psi \in C_c^\infty(\Omega)$ and $\phi \in C_c^\infty(\mathbb{R}^n \setminus \Omega)$, for then $p_2^\vee(x,z) = \psi(x)\phi(x-z)$ and hence $p_2^\vee(x, x-y) = \psi(x)\phi(y) = 0$ for $x, y \in \Omega$.

Page 277, line 4: $D^\alpha\delta(x-y) \quad\to\quad D_x^\alpha\delta(x-y)$

Page 280, line -7: $D_\xi^\beta \quad\to\quad D_\xi^\alpha$

Page 285, (8.24): Σ_a should be the closure of the set on the right side.

Page 287, line 9: $d\eta \quad\to\quad dy$

Page 289, next-to-last line of proof of Corollary (8.32): $\Psi^{-\infty} \quad\to\quad S^{-\infty}$

Page 290, line 3 of proof: $u(x)v(y) \quad\to\quad u(y)v(x)$

Page 293, line 4: then then $\quad\to\quad$ then

Page 293, last line: $2\pi i \quad\to\quad \dfrac{1}{2\pi i}$

Page 305, line 3: and and $\quad\to\quad$ and

Page 323, Huygens phenomenon and Huygens principle: 167 $\quad\to\quad$ 172