

Errata

(as of Dec 30, 2009)

Page	Line	Correction
xii	14	variable \Rightarrow variables
xii	21	questions \Rightarrow question
12	Figure I.6a caption.	greater than $1.8^\circ\text{C} \Rightarrow$ less than 1.8°C
26	line 19	$\psi(x,y,t) \Rightarrow \psi(y,z,t)$
26	line 43	$az \Rightarrow -az$
33	Exercise 3 should be rewritten as:	
(3)	Using Riemann invariants, decompose the following flow field into ‘forward’ and ‘backward’ waves: $\eta(y,t) = -\sin[y]\cos[(gD)^{1/2}t] \text{ and } v' = (g/D)^{1/2} \cos[y]\sin[(gD)^{1/2}t].$	
	In the process, deduce that background state must be at rest: $V=0$.	
44	Figure 1.4.1 caption	1.4.1 \Rightarrow 1.4.7
52	two lines above (1.5.3)	(1.5.10) \Rightarrow (1.5.1)
55	Equation (1.5.10)	$\left[\frac{\partial \mathcal{G}_1 / \partial \gamma_1}{\partial \mathcal{G}_2 / \partial \gamma_2} \right]_{y=y_c} \Rightarrow \left[\frac{\partial \mathcal{G}_1 / \partial \gamma_1}{\partial \mathcal{G}_1 / \partial \gamma_2} \right]_{y=y_c}$
55	line 8	(2.5) \Rightarrow (1.5.4)
96	line 4	(1.19.12) \Rightarrow (1.10.7)
96	line 10	(1.19.13) \Rightarrow (1.10.8)
108	line 5	“such D ” \Rightarrow “such as D ”
111	2 lines after (2.1.14)	$x- \Rightarrow y-$

- 125 Equation (2.2.27) $y \Rightarrow y^*$ near the end
- 142 footnote If fact \Rightarrow In fact
- 149 line 10 from bottom “or Section” \Rightarrow “of Section”
- 152 line 14 from bottom “suggest” \Rightarrow “suggested”
- 158 line 10 (1977) that \Rightarrow (1977) model that
- 162 line 19 “upstreams” \Rightarrow “upstream”
- 163 equation 2.6.8. please ($\Delta z_R^* = g^{-1} B_R^* - h_c^*$) at beginning of next line, so that that line now reads “, where ($\Delta z_R^* = g^{-1} B_R^* - h_c^*$), and thereby”
- 176 Equation (2.8.11) $\alpha^2 \Rightarrow r^{-2}$ and $a^{-1} \Rightarrow r$.
- 177 Equation (2.8.12) $a^{-1} \Rightarrow r$
- 211 line 7 “zero” \Rightarrow “unity”
- 215 line 25 it \Rightarrow its
- 216 Equation 2.12.3 the right-hand expression on the 2nd line should have a minus sign in front: $= \frac{\alpha g}{f} \dots \Rightarrow = -\frac{\alpha g}{f} \dots$
- 218 footnote a alternative \Rightarrow an alternative
- 227 3rd line under (b) (2.2.26) \Rightarrow (2.12.26)
- 227 2 lines from bottom consists \Rightarrow consist
- 242 line 34 anticyclonic \Rightarrow anticyclonic vorticity
- 269 line after (3.2.2) taking of limit \Rightarrow taking the limit
- 278 line 4 Herman \Rightarrow Hermann
- 373 5 lines from bottom $Q^* \Rightarrow q^*$ in $Q^* = dB^*/d\psi^*$
- 374 Figure 4.1.3 caption $Q \Rightarrow Q^*$ in expression for \hat{D}_r

- 379 line 13 “Figure 1” ⇒ “Figure 4.2.1”
- 385 5 lines from bottom (III) or (IV) ⇒ (II), (III) or (IV).
- 397 line 2 delete “is”
- 405 line 3 of Sec. 4.5 “Munchow” ⇒ “Münchow”
- 409 two lines ff. eq. 4.5.3 $d_{\infty}^* \Rightarrow d_b^*$
- 409 3 lines past eq. 4.5.3 $v \Rightarrow v^*, d \Rightarrow d^*, x \Rightarrow x^*$
- 409 Figure second line of 4.5.5 caption. “observed” ⇒ “observer”
- 410 eq. (4.5.4) $d_b \Rightarrow d_b^*$
- 411 eq. 4.5.6 $g'd_b^{*2} \Rightarrow g'd_b^{*2} / 2$
- 412 5 lines from bottom “(1)” ⇒ “(4.5.1)”
- 413 Figure 4.5.7 caption, line 6 “(1)” ⇒ “(4.5.1)”
- 433 line 21 $d_{1\infty} = \frac{d_{1\infty}^*}{(g'Q_1^*/w^*)^{2/3}} \Rightarrow d_{1\infty} = \frac{g'd_{1\infty}^*}{(g'Q_1^*/w^*)^{2/3}}.$
- 445 Figure 5.4.2 Frames (a-c) are not labeled in the figure. The caption should refer to them as ‘top’, ‘middle’ and ‘bottom’ respectively. Also, the lower frame is incorrect. It should be Figure 6 of Armi (1986).
- 448 Figure 5.4.3 caption Based a figure in ⇒ Based on Figure 2 of
- 465 line 14 1.7% ⇒ 1.7‰
- 475 between eqs. (5.7.15) and (5.7.16): $\partial G / \partial \bar{d}_2 \Rightarrow \partial G / \partial \bar{d}_2 = 0$
- 482 line 16 (and p. 484 figure cap) Reimenschneider ⇒ Riemenschneider
- 483 7 lines up from bottom “than is larger” ⇒ “that is larger”
- 492 line 3 “provide that” ⇒ “provided that”
- 493 line 6 “0.03, which” ⇒ “0.03 Sv., which”

- 495 line 11 Trough \Rightarrow Through
- 508 line 10 depends \Rightarrow depend
- 522 line bet. (6.2.2) and (6.2.3) consists \Rightarrow consists of
- 528 line 6 delete 'from the origin'
- 528 line 12 through the origin \Rightarrow through ($Y=Y_h=0$)
- 572 Burk, et al. reference Vol. 58 \Rightarrow Vol. 56
- 575 line 7 Hansen, G. \Rightarrow Hansen, B.
- 575 line 21 Herman \Rightarrow Hermann

Reference List Changes

576 reference list should include Riemenschneider, U., D. A. Smeed and P. D. Killworth 2005. Theory of two-layer hydraulic exchange flows with rotation. *J. Fluid Mech.* **545**, 373-395.

577 last entry "Munchow" \Rightarrow "Münchow"

581 reference list should include Wood, I. R. 1968. Selective withdrawal from a stably stratified fluid. *J. Fluid Mech.*, **32**, 209-223.

Index Changes

583 add "Approach control, 437, 528-529, 532.

588 Supercritical leap, 528 \Rightarrow Supercritical leap, 437, 528.