

## ERRATA

### Computational Fluid Dynamics: Incompressible Turbulent Flows

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#### Chapter 1

- p. 9, line 17:  $u_2 = u \rightarrow u_2 = v$
- p. 10, Eq. (1.32):  $D_{ij} = \left( \frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i} \right) \rightarrow D_{ij} = \frac{1}{2} \left( \frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i} \right)$
- p. 21, Question 1.6: conversation  $\rightarrow$  conservation

#### Chapter 2

- p. 27, line 4: “an fourth”  $\rightarrow$  “a fourth”
- p. 31, Eq. (2.35):  $\frac{f_j}{\Delta_{j-\frac{1}{2}}\Delta_{j+\frac{1}{2}}} \rightarrow \frac{2f_j}{\Delta_{j-\frac{1}{2}}\Delta_{j+\frac{1}{2}}}$
- p. 35, Eq. (2.46):  $\frac{-f_{j-\frac{1}{2}}+f_{j+\frac{1}{2}}}{2} \rightarrow \frac{-f_{j-\frac{1}{2}}+f_{j+\frac{1}{2}}}{\Delta}$
- p. 47, 2 lines below Eq. (2.92):  $\Delta g^n \rightarrow \Delta t g^n$

#### Chapter 3

- p. 94, Eq. (3.94):  $\partial E_{i,j}^{(m)} \rightarrow E_{i,j}^{(m)}$
- p. 95, Eq. (3.98):  $\beta + \frac{E_{i,j}^{(m*)}}{B_{i,j}^0} \rightarrow \beta \frac{E_{i,j}^{(m*)}}{B_{i,j}^0}$
- p. 104, Eq. (3.124):  $u_{i+1,j+\frac{1}{2}} \rightarrow v_{i+1,j+\frac{1}{2}}$  and  $2\Delta x$  in the last term  $\rightarrow 2\Delta y$
- p. 105, Eq. (3.131): needs a comma “,” after the mathematical expression.
- p. 126, 3rd paragraph, line 3: meant by ”needed”  $\rightarrow$  meant by “needed

#### Appendix C

- p. 342, Eq. (C.8):  $\mathbf{x}^T(t_m) \rightarrow \mathbf{x}^T(t_i)$
- p. 346, below Eq. (C.21): “where  $\Phi$  is the left singular vectors from SVD (equivalent to POD modes).”  $\rightarrow$  “where  $\Phi$ ,  $\Psi$ , and  $\Sigma$  are matrices holding left singular vectors, right singular vectors, and singular values of  $X_{1 \rightarrow m}$  as determined from Eq. (C.16). It should be noted that the above similarity transform is performed with  $\Phi$ , which corresponds to the POD modes of the flow.”