

List of Acronyms

- PIMPLE is missing in the List of Acronyms - it is a combination of SIMPLE and PISO (Bruno Santos)
- DES ... “Detached” instead of “Detached” (Matej)
- “CAD” is the abbreviation for “Computational Computer Aided Design” (Saeed Faz)

Preface

- In page 34 it says version 2.2.x is used in the book but in page 4, of the preface, it says is version 2.1.1. (Paulo Vataavuk)

Chapter 1

A sign error in front of the diffusion term in the generalized scalar transport equation (found by Tobias Holzmann). Correct equation:

$$\frac{\partial \phi}{\partial t} + \nabla \cdot (\mathbf{U}\phi) - \nabla \cdot (D\nabla\phi) = S_\phi, \quad (1)$$

- Page 12, last line “[...] simulations might slow down the simulation.” Missing period. (Takuya Yamamoto)
- Page 15, “... using a the same mathematical description...” (Sergei)
- In page 13 line 17: “...resulting with matrices...” should be “...resulting in matrices...” (Paulo Vataavuk)
- Page 20. fig 1.4 b) : “jump f of the densiy” (Sergei)
- Page 22, Space missing in the last block (second of last line) “the faces in faces list» «(see figure 1.5)” (Tobias Holzmann)
- Page 22. “Similarly, the cells are constructed from the faces, by referring to the position of the face in the faces list.” -> “Similarly, cells are constructed from faces, by referring to the position of a face in the face list.” (Sergei)
- Page 24, Point missing at line 7 “... of the mesh face list».« In turn, the ...” (Tobias Holzmann)
- Page 24. “Such definition of the boundary mesh results with...” -> “Such definition of the boundary mesh results in...” (Sergei)
- Page 25, Figure 1.6 “[...] 0 and blue gray frame.” (Takuya Yamamoto)
- Page 26, Equation 1.5, “U” is missing in the surface integral (Felix)
- Page 26, Eq (1.4). To be more correct the rhs should be $V_P(\phi_n - \phi_0)$, not $V_P(\phi_n - \phi_0)/dt$. And the rhs in eq (1.5) should be multiplied by dt . (Sergei)
- Page 27, Line 17-18 “In case of evaluating the evaluating the r.h.s [...]” (Hongjiang Li)
- Page 29, Eqn. 1.11 – maybe it is good to have some reference to figure 1.7 " (Ernesto De La Pena)

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- Page Eq (1.11). Both fN and PN are vectors and should be denoted by bold letters. (Sergei)
 - Page 29, Space missing in the last block second of last line, "... shown in figure 1.6.» «For this ...” (Tobias Holzmann)
 - Page 29, Eqn. 1.12 – first coefficient has a wrong index, 9 should be 0 (Tobias Holzmann)

Chapter 2

- Page 39, line 7: "... real..." instead of "... areal...". (Paulo Vatauvuk)
- Page 40, either though through point displacement... (Sergei)
- Page 42: Line 6 "... whichi ..." - should be which (Tobias Holzmann)
- Page 46: Line 9 "For more information on" (Vatauvuk)
- Page 46: Line 26 "Which form a 5°" should be "small (< 5°) wedge" (Paulo Vatauvuk)
- Page 50: Line 17 "0 and 2 and 0 and 4" - should be "0 and 3 and 0 and 4" (Tobias Holzmann)
- Page 51: Equation 2.1 should be (Ernesto De La Pena)
- Page 54. "checkMesh is a nativ native OpenFOAM tool..." (Sergei)
- Page 62: listed in Table table 2.1 (Anja Fath)
- Page 70. "~~Geometries~~ Geometries used by cfMesh are required..." (Sergei)
- Page 85. "The setFields utility is described in section 3.2."
- Page 86, 9th line from the bottom: "...replaced." instead of "...replace." (Paulo Vatauvuk)
- Page 86, 7th page 86, last line: it seems the text "Now we will do the same using the setSet utility." should be removed or edited because it seems to be out of context.line from the bottom: "...definitions..." instead of "...defenitions..." (Paulo Vatauvuk)
- Page 87, 5th line from the bottom: "...is defined by input vectors." instead of "... is defined by to input vectors." (Paulo Vatauvuk)
- Page 87. "scale scales the points of the mesh in any or all cardinal directions by a specified scalar ~~ammount~~ amount" (Sergei)
- Page 87. "The next step is to define the plane which will act ~~the~~ as the mirror-plane." (Sergei)
- Page 89, "to ~~extened~~ extend the currently available documentatio" (Sergei)

$$n_{\text{cells}} = n_{\text{nodes}} - 1 \quad (2)$$

- Page 60: Line 3 "(blue cells in figure 2.11)", unfortunately the picture is black white and for not familiar users its not clear out of the picture (I think) ... (Tobias Holzmann)
- Page 61: third of last line there is an "e" missing "When using this approach not»« that it is ...” (Tobias Holzmann)



Chapter 3

- Page 93, tip box, has two bold sentences that seem out-of-place: “Finite Volume Method!” - acronym error (Bruno Santos)
- Page 93. “All parameters defined in the controlDict are ~~independant~~ independent. . .” (Sergei)
- Page 97, 3rd line from the bottom: “. . . an example of how the boundary. . .” instead of “. . . an example of the boundary. . .” . (Paulo Vatavuk)
- Page 100, tip box “Settting Setting initial field conditions [. . .]” (Tobias Holzmann)
- Page 100, line 19 “[. . .] evaluation schemes are used for terms defined in the solver.” (Tobias Holzmann)
- Page 103: . . . is shown below in figure 3.2. (Anja Fath)
- Page 104, line 8: “. . . are as important as the proper. . .” instead of “. . . are as important proper. . .” (Paulo Vatavuk)
- Page 107, line 3 of the first block: “. . . momentum. . .” instead of “. . . moment. . .” (Paulo Vatavuk)
- Page 108, in the 8th line from bottom, “as the abstraction level of the algorithmic implementation became higher and higher” (Hongjiang Li)
- Page 110, line 6 “[. . .] have the ability to store the values from [. . .]” (Hongjiang Li)
- Page 110, line 15: “resulting in the derivative. . .” instead of “resulting with the derivative. . .”.
- Page 110, Equation 3.10 should be $\phi'_c \approx \frac{c_t \phi_c - c_{t0} \phi_c^0 + c_{t\infty} \phi_c^{\infty}}{\delta t}$ (Hongjiang Li)
- Page 110. “The gradSchemes determine which gradient evaluation schemes are used in terms defined in the solver.” (Sergei)
- Page 112, line 8 “[. . .]ratio of the property difference given by minimal and [. . .]” (Tobias Holzmann)
- Page 113, Equation (3.23) $\phi(x) = \phi_c -$ should be $\phi(x) = \phi_c +$ (Sergei)
- Page 115, 5th line from the bottom: “system/fvSchemes” instead of “systems/fvSchemes”. (Paulo Vatavuk)
- Page 117. line 7 : ~~deitnary~~ dictionary (Sergei)
- Page 122, in the tip box, it has “serial ~~exeuction~~ execution” (Bruno Santos)
- Page 123, 4th line from the bottom: “. . . the method that should be used. . .” instead of “. . . the method should used. . .” (Paulo Vatavuk)
- Page 126 the Brackbill paper appears two times in the Further reading section. (Paulo Vatavuk)



Chapter 4

- Page 127, line 8: “The source code of the [...]” (Tobias Holzmann)
- Page 128, line 2: “[...] with an exiting existing utility, a combination [...]” (Tobias Holzmann)
- Page 129, line 18: I suppose the command should be “?> foamCalc div U - latestTime”. (Paulo Vataavuk)
- Page 149, line 5: “[...] select the dynamic pressure p_{rgh} [...]” should be “[...] select the dynamic pressure p_{rgh} [...]” (Gab Axtman)

Chapter 5

- Page 154, 10-11: “[...] and the software system is more modular.” (Tobias Holzmann)
- Page 157, line 1: “... his or her disposal...” (Tobias Holzmann)
- Page 157, 8th line from the bottom: “The applications.” instead of “Th applications.”. (Paulo Vataavuk)
- Page 161, line 19: “... results in a different model.” instead of “... results with a different model.”. (Paulo Vataavuk)
- Page 162, 7th line from the bottom: “... result in computed fields.” instead of “... result with computed fields.”. (Paulo Vataavuk)
- Page 167, line 9: “... apparent to a novice user.” instead of “... apparent a novice user.”
- Page 170, last inline listing: “static const scalar smallExponen;” (Tobias Holzmann)
- Page 174 line 14: “... for larger objects.” instead of “... for lager objects.”. (Paulo Vataavuk)
- Page 174, line 15: “... more conservative...” instead of “... more converative...”. (Paulo Vataavuk)
- Page 178, first code listing: “sed -i ‘s/FOAM_APPBIN/FOAM_USER_APPBIN/g’ Make/options” (Tobias Holzmann)
- Page 178, line 2: “implements two...” instead of “implements and two...”. (Paulo Vataavuk)
- Page 181, 12th line from the bottom: “... that is present...” instead of “... that is persent...”. (Paulo Vataavuk)
- Page 190, line 7: “depending on particular needs.” instead of “depending particular needs.”. (Paulo Vataavuk)
- Page 191, line 8: I’m not sure but it seems that it should be “ cells[2] = 39220;” instead of “ cells[3] = 39220;”. (Paulo Vataavuk)
- Page 192, last line: It seems that something is missing in the reference. (Paulo Vataavuk), cause - extra comma in the bibliography entry (Tomislav)

Chapter 6

- Page 194, 3-4: “[...] installing OpenFOAM on an a HPC cluster.” (Tobias Holzmann)



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- Page 194, 24: “[...] may combine libraies libraries to handle [...]” (Tobias Holzmann)
 - Page 197, 29: “[...] example code repostiory repository.” (Tobias Holzmann)
 - Page 204, 5: “[...] version of gdb, ~~whieh~~ which is used [...]” (Tobias Holzmann)

Chapter 8

- Listing 42 (Pg. 240), the assignment line for movingWallU is missing a “””: `movingWallU = uFile[“boundaryField”][“movingWall”][“value”]` (Dhaval)

Chapter 10

- Minor typo in section 10.2, line 3 (Boundary Condition Design, Pg. 284) : misspelled “this” as “thi” (Dhaval)
- Page 292: second paragraph, `updatecorrectBoundaryConditions()` (Timm Severin)
- Page 294: ~~perofrm~~ perform (Timm Severin)
- Page 297: Second paragraph, last sentence: The as the... (Timm Severin)
- Page 298: 10.3, 1st paragraph: ~~impelmentation~~ implementation
- Page 299: Second paragraph ~~how develop~~ how to develop (Timm Severin)
- Page 301: As shown on ~~in~~ that diagram (Timm Severin)
- Page 302: ... we have chosen ~~to~~ flow recirculation (Timm Severin)
- Page 303: ... ~~an~~ that an eddy ... (Timm Severin)
- Page 308, First sentence, misses a full stop. (Timm Severin)
- Page 308, Second sentence, “The common way is ...” (Timm Severin)
- Page 309, 3rd paragraph, “~~illsutrated~~ illustrated” (Timm Severin)
- Page 309, 4th paragraph, “~~devided~~ divided” (Timm Severin)
- Page 311, Last line “~~algoritm~~ algorithm” (Timm Severin)

Chapter 11

- On page 345 in the caption of figure 11.6, ~~decent~~ descent. (Gerhard Holzinger)

Chapter 12

- Section title 12.1 “Software Desgin” – should be “Design” (Bruno Santos)
- Page 380, line 3: “...as they involve...” instead of “... as the they involve ...” (Matej)
- Page 383, line 4: “...septernion used to transform...” instead of “...septernion used for to transform...” (Matej)
- Page 398, 5th line from bottom: “... Not only the is constant/dynamicMeshDict responsible ...” I think this sentence should be rewritten. (Matej) - you are right, I have rewritten it (Tomislav).
- Second last paragraph prior to 12.1 ~~generreally~~ generally (Gerhard Holzinger)
- 12.1.1 cell ~~eelection~~ selection function (Gehrhhard Holzinger)



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- 12.2.1 For the sake of this example, the set in this case to outputTime. Check for completeness. (Gerhard Holzinger)
 - 12.2.1 ~~accelerated~~ accelerated (Gerhard Holzinger)
 - 12.2.2 /second paragraph:/ because of it its versatility (Gerhard Holzinger)
 - 12.2.2 Alternative output modes for the function objects are ~~timestep~~ timeStep and deltaT. When the output fequency ... (Gehrhard Holzinger)

