INDUSTRIAL applications of CFD

Ola NORDMANN1 , Zhi L. XIE2\*

1 SINTEF Materials and Chemistry, 7465 Trondheim, NORWAY

2 NTNU Department of Physics, 7491 Trondheim, NORWAY

\* E-mail: zhi.l.xie.address@email.com

# ABSTRACT

This file is an example Microsoft Word file for submission to CFD2017. A limit of 4-10 pages applies (submitted file size < 10MB).

## Keywords: CFD, hydrodynamics, chemical reactors.

# NOMENCLATURE

A complete list of symbols used, with dimensions, is required.

*Greek Symbols*

 Mass density, [kg/m3].

 Dynamic viscosity, [kg/m.s].

*Latin Symbols*

 Characteristic length, [m].

 Pressure, [Pa].

 Velocity, [m/s].

*Sub/superscripts*

 Gas.

 Index *i.*

 Index *j*.

# INTRODUCTION

The introduction goes here.

# Model description

## Example of Subheading

Here is how to produce a numbered equation under a second level heading (James and Ying, 1998).

*Continuity equation*

|  |  |
| --- | --- |
|  | (1) |

*Momentum equation*

|  |  |
| --- | --- |
|  | (2) |

### Example of Sub-subheading

This is how Luke (1998) produced an unnumbered equation under a third level heading.

|  |  |
| --- | --- |
|  | (3) |
|  | (4) |



Figure 1: Schematic diagram of geometry.

# RESULTS

Here is an example of a table which has been fitted into two-column format.

Table 1: Modelling conditions.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CFD Run | ω | *ND* | χα/χβ |  | Γα | Γβ |
| First α |  |  |  |  |  |
| AA01 | 0.0391 | 0.820 | 0.9469 | 0.041 | 0203 | 0.123 |
| AA02 | 0.8741 | 0.553 | 0.9528 | 0.399 | 7215 | 0.283 |
| AA03 | 0.3654 | 0.958 | 0.5304 | 0.807 | 3049 | 0.350 |
| AA04 | 0.8548 | 0.203 | 0.8170 | 0.332 | 0561 | 0.556 |
| AA05 | 0.8676 | 0.215 | 0.7895 | 0.509 | 9207 | 0.123 |
| AA06 | 0.1763 | 0.409 | 0.0698 | 0.995 | 7991 | 0.123 |
| First β |  |  |  |  |  |
| BA11 | 0.9654 | 0.443 | 0.5503 | 0.927 | 9257 | 0.284 |
| BA12 | 0.6548 | 0.191 | 0.5146 | 0.337 | 3357 | 0.042 |
| BA13 | 0.9476 | 0.535 | 0.2801 | 0.939 | 9389 | 0.108 |
| BA14 | 0.3063 | 0.071 | 0.3640 | 0.454 | 4534 | 0.896 |
| BA15 | 0.3982 | 0.091 | 0.9544 | 0.521 | 7331 | 0.911 |
| BA16 | 0.9734 | 0.161 | 0.0897 | 0.388 | 1144 | 0.144 |
| BA17 | 0.8912 | 0.123 | 0.4564 | 0.198 | 7744 | 0.912 |
| BA18 | 0.2312 | 0.723 | 0.0218 | 0.120 | 6612 | 0.893 |
| BA19 | 0.1243 | 0.107 | 0.8490 | 1.289 | 2859 | 0.698 |

# CONCLUSION

The conclusions are:

1. Trondheim is a nice city.
2. CFD is great fun, and useful too.

# REFERENCES

JAMES, T. and YING, A.C., (1988), “A new technique for producing stencils”, *Proc. Int. Cong. on Stencils*, ABCD, Melbourne, Australia, February 29-31.

LUKE T., (1988), “A new technique for Stencil publishing”, *J. Stencils*, **5,** 179-221.

# appendix a

Give any additional information here.