

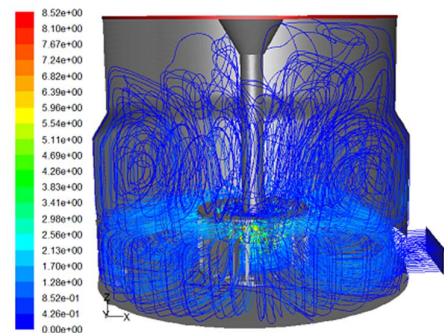
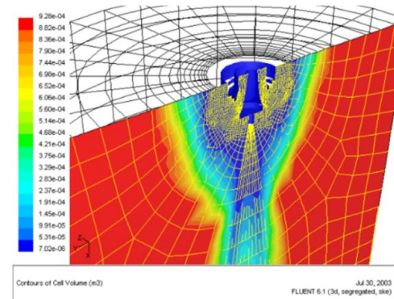
CHEM007Z-LZ CFD Special Course,
Introduction of Applied Computational Fluid Dynamics
D.Sc. (Tech.) *Jiliang Xia*, Outotec Research Center
April 19th, 2017, and April 27th – 28th, at 9.00 – 16.00
Aalto University, Department of Chemical and Metallurgical Engineering
Vuorimiehentie 2, 02150 Espoo

Aim

1. Understand the basics of CFD
2. Touch with a commercial CFD code
3. Introduction to some numerical algorithms
4. Be familiar with CFD applications in industrial, especially, metallurgical processes

Content

1. Introduction to CFD fundamentals
2. CFD application in minerals and materials process and product design
3. Tutorial examples for minerals processing and metals extraction
 - a. Burner cooling
 - b. Flow in a cyclone
 - c. Flow in a flotation cell
 - d. CFD in design of a scrubber
 - e. Modeling slag flow
4. Introduction to a commercial CFD code ANSYS Fluent
 - a. geometry creating
 - b. meshing
 - c. mathematical model setting and solving
 - d. postprocessing, etc.



Credits

Full course with individual assignment 5 cr, lectures only 3 cr.

Place

Aalto University, Department of Chemical and Metallurgical Engineering

Enrollments

Lecturer Marko Kekkonen, marko.kekkonen@aalto.fi