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NPTEL

reviewer4@nptel.iitm.ac.in ▼

Courses » Spray Theory

Announcements

Course

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Unit 12 - Week 11: Multiphase flow models of sprays

Register for
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Course outline

How to access
the portal

Week 1:
Introduction to
sprays and
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Week 2: Drop
size and velocity
distributions

Week 3:
Atomizers and
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Week 4:
Atomizers and
their designs

Week 5:
Atomization
theory

Week 6:
Atomization
theory

Week 7: Spray
theory

Week 8: Spray
theory

Week 9:
Practical

Assignment 11

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2019-04-17, 23:59 IST.**

1) In multiphase modelling, the method in which the different phases are solved separately with associated interface jump conditions is called **1 point**

- Exact approach
- Multi-phase approach
- Single phase approach
- Particle ballistics approach

No, the answer is incorrect.

Score: 0

Accepted Answers:

Exact approach

2) The population balance model is added along with the multiphase model to capture the outcomes of **1 point**

- Liquid atomization
- Liquid transport
- Liquid oscillation
- None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Liquid atomization

3) The advantage of using the exact modelling approach over linear stability analysis is/are **1 point**

- Computationally cheap
- Saves more time

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models of sprays

Week 11: Multiphase flow models of sprays

Multiphase modelling – Selection of model-1

Multiphase modelling – Selection of model-2

Multiphase modelling - Governing equations

Quiz : Assignment 11

New Lesson

New Lesson

Week - 11 Feedback Form

Week 12: Spray evaporation and combustion

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Higher level of detail

4) The multiphase modeling method used in sprays where a collection of drops is considered as a one packet is called as **1 point**

- Exact approach
- Volume approach
- Single phase approach
- Particle ballistics approach

No, the answer is incorrect.

Score: 0

Accepted Answers:

Particle ballistics approach

5) In the dense region of spray **1 point**

- Droplets influence the flow field
- Flow field influences the droplet
- Droplets and flow field are not two way coupled
- Droplets and flow field are two way coupled

No, the answer is incorrect.

Score: 0

Accepted Answers:

Droplets and flow field are two way coupled

6) Among the multiphase models, which one of the following is a suitable for the flow of water over a hot cylinder in a bath with tiny vapor bubbles generated in it? **1 point**

- Single phase model
- Multi-phase model
- Particle ballistics model
- All the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Multi-phase model

7) Which one of the following is a suitable method for modelling a multiphase flow in a pipe of finite length, with very less particle relaxation time than the flow residence time? **1 point**

- Single phase model
- Exact approach
- Two-phase approach
- Particle ballistics approach

No, the answer is incorrect.

Score: 0

Accepted Answers:

Single phase model

8) **1 point**

- 0.22

- 0.044
- 0.022
- 0.44

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.022



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