Dr. Soumya Sanjeeb Mohapatra

Contact Information

Assistant Professor
Department of Chemical Engineering
National Institute of Technology Rourkela
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Research Interests

Enhanced Heat Transfer, Spray and Atomisation, Jet Cooling, Air Atomized Spray Cooling, Boiling, Condensation, and Ultra-fast Cooling

Education

Doctor of Philosophy 2008-2013

Department of Chemical Engineering
Indian Institute of Technology Kharagpur, INDIA

Master of Technology 2005-2007

Department of Chemical Engineering
Indian Institute of Technology Kharagpur, INDIA

Bachelor of Engineering 2001-2005

Department of Chemical Engineering
Indira Gandhi Institute of Technology, Sarang, Talcher, INDIA

Research Experience

IIT Kharagpur — PhD Research

Project: "**Experimental Studies on Different Cooling Processes to Attain Ultra-Fast Cooling Rate for Hot Steel Plate"**
Supervisors: Prof. S. Chakraborty and Prof. S. K. Pal

IIT Kharagpur — MTech Research

Project: "**Development and Characterization of Thin Polymer Film for Optoelectronic Application"**
Supervisor: Prof. S. Neogi

Refereed Journal Publications

1. **Mohapatra S. S.,** Singh A., Bhattacharya C., Ravi Kumar S. V., Chakraborty S., Pal S. K., 2014. Ultra Fast Cooling of a Hot Steel Plate by Air Atomized Spray with Salt. Heat and Mass Transfer, 50, 587-601.

2. **Mohapatra S. S.,** Ranjan R, Ravikumar S. V., Pal S. K., Chakraborty S.,

Singh Shiv B., 2014. Ultra Fast Cooling and its Effect on the Mechanical Properties of Steel, Trans of ASME Journal of Heat Transfer, 136, 032101-1-9.

3. **Mohapatra S. S.,** Srinath K., Pal S. K., Chakraborty S., 2014. Enhancement of Cooling Rate for a Hot Steel Plate using Air-Atomized Spray with Surfactant-Added Water, Experimental Heat Transfer, 27, 72-90.

4. **Mohapatra S. S.,** Jha J. M., Singh A., Bhattacharya C., Ravi Kumar S. V., Chakraborty S., Pal S. K., 2014. Effect of Oxide Layer in the Ultra Fast Cooling of a Steel Plate. Experimental Heat Transfer (DOI:10.1080/08916152.2013.845624).

5. Ravi Kumar S. V., Jha J. M., **Mohapatra S. S**., Pal S. K., Chakraborty S., 2014. Experimental Investigation of Effect of Different types of Surfactants and Jet height on Cooling of a Hot Steel Plate, Trans of ASME Journal of Heat Transfer (DOI:10.1115/1.4027182).

6. **Mohapatra S. S**., Ravikumar S.V., Verma A., Pal S. K., Chakraborty S., 2013. Experimental Investigation of Ultra Fast Cooling of Hot Steel Plate by Surfactant Added Water Jet. Trans of ASME Journal of Heat Transfer, 135, 032101-1-7.

7. **Mohapatra S. S.,** Ravikumar S. V., Chakraborty S., Pal S. K., 2013. Ultra Fast Cooling of a Hot Steel Plate by Using High Mass Flux Air Atomized Spray. Steel Research International, 3, 229-236.

8. Ravi Kumar S. V., Jha J. M., **Mohapatra S. S.,** Pal S. K., Chakraborty S., 2013. Influence of Ultrafast Cooling on Microstructure and Mechanical Properties of Steel, Steel Research International, 84, 1157-1170.

9. Ravi Kumar S. V., Jha J. M., **Mohapatra S. S.,** Sarkar I., Pal S. K., Chakraborty S., 2013. Achievement of Ultrafast Cooling Rate in a Hot Steel Plate by Air-atomized Spray with Different Surfactant Additives, Experimental Thermal and Fluid Science, 50, 79-89.

10. Ravi Kumar S. V., Jha J. M., **Mohapatra S. S.,** Sinha A., Pal S. K., Chakraborty S., 2013. Experimental Study of the Effect of Spray Inclination on Ultrafast Cooling of a Hot Steel Plate, Heat and Mass Transfer 49, 1509-1422.

11. **Mohapatra S. S.,** Ravikumar S. V., Andhare S. K., Chakraborty S., Pal S. K., 2012. Experimental Study and Optimization of Air Atomized Spray with Surfactant Added Water to Produce High Cooling Rate. Journal of Enhanced Heat Transfer, 19, 397-408.

12. **Mohapatra S. S.,** Chakraborty S., Pal S. K., 2012. Experimental Studies on Different Cooling Processes to Achieve Ultra Fast Cooling Rate for Hot Steel Plate, Experimental Heat Transfer, 25, 111-125.

Conference Publications

1. **Mohapatra, S. S.,** Palleti V. R., Pal, S. K., Chakraborty, S., 2011. Experimental Studies of Ultra Fast Cooling of a Hot Steel Plate by Using Air Atomized Spray with High Mass Flux. International Conference on Advances in Material Processing (ICAMMP, 2011), December 9-11, 2011, India, Kharagpur.

Software Skills

Operating Systems: Linux and Windows

Programming: FORTRAN and C

Software Packages: Aspen Plus, INTEMP, LabVIEW, MS-Words, Excel, Power Point, Origin, Coral Draw, Adobe, Matlab