

RESUME

PEDRAM POURNADERI

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PRESENT POSITION

Assistant Professor of Mechanical Engineering
Yasouj University

EDUCATION

B.S., Mechanical Engineering, Semnan University, Iran, 2002

M.S., Mechanical Engineering, Isfahan University of Technology, Iran, 2005

Ph.D., Mechanical Engineering, Isfahan University of Technology, Iran, 2012

RESEARCH INTERESTS

Multiphase Flows, Nanofluid Flow, Non-Newtonian fluids, Computational Fluid Dynamics

PROFESSIONAL EXPERIENCE

Assistant Professor of Mechanical Engineering, Yasouj University (Since 2012)

TEACHING EXPERIENCE

Undergraduate:

Fluid Mechanics, Heat Transfer, Thermodynamics, Turbomachinery, Engineering Mathematics

Graduate:

Advanced Numerical Analysis, Advanced Fluid Mechanics, Theory of Boundary Layer, Selected Topics in Fluid Mechanics

ADMINISTRATIVE ACTIVITIES

Head of Mechanical Engineering Department (2014-2016)

THESES SUPERVISED

Numerical Simulation of Droplet Vaporization under an Electric Field, M. Rayatinezhad, M.S. Thesis (2015).

Study of Electric Field Effect on Droplet Collision with a Hot Surface in the Leidenfrost Regime, H. Nazari, M.S. Thesis (2016).

Numerical Simulation of Nanofluid Droplet Impact on a Hot Surface in the Leidenfrost Regime, M. Deilami, M.S. Thesis (2016).

Numerical Simulation of Droplet Impact on a Surface under an Electric Field, M. Emdadi, M.S. Thesis (2017).

Numerical Simulation of Motion and Heat Transfer of a Droplet between Two Parallel Plates under an Electric Field, M. A. Bazrafkan, M.S. Thesis (2017).

Numerical Study of Hydrodynamic and Heat Transfer of Liquid Jet in the Dripping Mode under an Electric Field, R. Khanpour, M.S. Thesis (2017).

Numerical Simulation of Non-Newtonian Droplet under an Electric Field, L. Delbaznasab, M.S. Thesis (2018).

Numerical Simulation of Nucleate Boiling on a Hot Surface Using the Level set Method, S. Shamshiri, M.S. Thesis (2018).

Numerical Study of Nanofluid Flow in a channel with One-sided Sudden Expansion under an Magnetic Field Using Single-phase and Two-phase Models, F. Moradi, M.S. Thesis (2022).

PUBLICATIONS

F. Narges-Moghadam and P. Pournaderi, "Free Convection Heat Transfer of Alumina-Water Nanofluid in an Enclosure: Assessment of Viscosity and Conductivity Models", *International Journal of Engineering and Applied Physics*, 2022, Vol. 2, pp. 363-380.

P. Pournaderi and M. Deilami, "Modeling Nanofluid Droplet Impingement on a Superheated Surface", *Powder Technology*, 2021, Vol. 381, pp. 68-81.

M. Emdadi and P. Pournaderi, "Numerical Simulation of Conducting Droplet Impact on a Surface under an Electric Field", *Acta Mechanica*, 2020, Vol. 231, pp. 1083-1103.

P. Pournaderi and M. Aram, "Numerical investigation of nanofluid flow and heat transfer over a backward-facing step", *Engineering and Applied Science Research*, 2020, Vol. 47, pp. 401-413.

R. Kanpour and P. Pournaderi, "Simulation of the Liquid Spraying Process in the Dripping Mode Using the Level set Method", *Amirkabir Journal of Mechanical Engineering*, 2020, Vol. 52, pp. 215-218.

M. A. Bazrafkan and P. Pournaderi, "Study of leaky dielectric droplet behavior under an electric field: effect of viscosity and electric conductivity ratios", *Journal of Energy Conversion*, 2020, Vol. 7, pp. 51-60. (In Persian)

M. Emdadi and P. Pournaderi, "Numerical Study of Water Droplet Impact on a Surface Using a Sharp Approach for Interface Modeling", *Amirkabir Journal of Mechanical Engineering*, 2020, Vol. 51, pp. 427-430.

L. Delbaznasab and P. Pournaderi, "Numerical Simulation of a Non-Newtonian Droplet under an Electric Field", *Modares Mechanical Engineering*, 2020, Vol. 20, pp. 157-169. (In Persian)

H. Nazari and P. Pournaderi, "The Electric Field Effect on the Droplet Collision with a Heated Surface in the Leidenfrost Regime", *Acta Mechanica*, 2019, Vol. 230, pp. 787-804.

M. Emdadi and P. Pournaderi, "Study of Droplet Impact on a Wall Using a Sharp Interface Method and Different Contact Line Models", *Journal of Applied Fluid Mechanics*, 2019, Vol. 12, pp. 1001-1012.

H. Nazari and P. Pournaderi, "Simulation of Hydrodynamic Behavior of a Conductive Drop under an Electric Field", *Amirkabir Journal of Mechanical Engineering*, 2019, Vol. 51, pp. 93-95.

M. Deilami and P. Pournaderi, "Study of the Impact of Water-Silica Nanofluid Drop on a Hot Surface Using the Single-phase Model", *Journal of Mechanical Engineering*, 2019, Vol. 49, pp. 137-146. (In Persian)

M. Rayatinezhad and P. Pournaderi, "Electric Field Effect on the Hydrodynamic and Evaporation of a Dielectric Drop", *Journal of Mechanical Engineering*, 2017, Vol. 47, pp. 113-122. (In Persian)

P. Pournaderi and S. Rasekh, "Effect of an Isothermal Wall on the Natural Convection Heat Transfer from a Horizontal Cylinder", *Journal of Selected Topics in Energy*, 2017, Vol. 2, pp. 49-55. (In Persian)

P. Pournaderi and A. R. Pischevar, "The effect of the Surface Inclination on the Hydrodynamics and Thermodynamics of Leidenfrost droplets", *Journal of Mechanics*, 2014, Vol. 30, pp. 145-151.

P. Pournaderi and A. R. Pischevar, "Numerical simulation of oblique impact of a droplet on a surface in the film boiling regime", *Scientia Iranica*, 2014, Vol. 21, pp. 119-129.

P. Pournaderi and A. R. Pischevar, "A numerical investigation of droplet impact on a heated wall in the film boiling regime", *Heat and Mass Transfer*, 2012, Vol. 48, pp. 1525-1538.

H. Paknemat, A. R. Pischevar and P. Pournaderi, "Numerical simulation of drop deformations and breakup modes caused by direct current electric fields", *Physics of Fluids*, 2012, Vol. 24, pp. 102101.

PAPERS PRESENTED IN TECHNICAL MEETINGS

M. A. Bazrafkan and P. Pournaderi, "Numerical Simulation of Leaky Dielectric Droplet in Couette Flow under Electric Field", 19th Fluid Dynamics Conference, Sharif University of Technology, Tehran, Iran, 2021.

L. Delbaznasab, P. Pournaderi and M. A. Bazrafkan, "Simulation of Non-Newtonian droplet Behavior under an Electric Field", 18th Fluid Dynamics Conference, Ferdowsi University of Mashhad, Mashhad, Iran, 2019. (In Persian)

S. Shamshiri and P. Pournaderi, "Numerical Simulation of Nucleate Boiling on a Hot Surface Using the Level set Method", 18th Fluid Dynamics Conference, Ferdowsi University of Mashhad, Mashhad, Iran, 2019. (In Persian)

R. Khanpour and P. Pournaderi, "Numerical Study of Fluid Exit from a Nozzle in the Dripping Regime", 26th Annual International Conference of ISME, Semnan University, Semnan, Iran, 2018. (In Persian)

M. A. Bazrafkan and P. Pournaderi, "Numerical Study of Leaky Dielectric Droplet Behavior under an Electric Field", 26th Annual International Conference of ISME, Semnan University, Semnan, Iran, 2018. (In Persian)

S. Shamshiri and P. Pournaderi, "Numerical Simulation of Saturated Bubble Growth Using the Level set Method", 9th Students Conference on Mechanical Engineering, Yasouj University, Yasouj, Iran, 2018. (In Persian)

L. Delbaznasab and P. Pournaderi, "Numerical Simulation of a Newtonian Droplet Suspended in a Non-Newtonian Fluid", 9th Students Conference on Mechanical Engineering, Yasouj University, Yasouj, Iran, 2018. (In Persian)

M. Emdadi and P. Pournaderi, "Numerical Study of droplet Impact on a Solid Surface Using the Static Model", 25th Annual International Conference of ISME, Tarbiat Modares University, Tehran, Iran, 2017. (In Persian)

P. Pournaderi and S. Rasekh, "The Effect of an Adiabatic Wall on the Free Convection Heat Transfer from a Horizontal Cylinder", Third National and First International Conference on Applied Researches in Electrical, Mechanical and Mechatronic Engineering, Tehran, Iran, 2016. (In Persian)

M. Deilami and P. Pournaderi, "Numerical Simulation of Convective Heat Transfer of Nanofluid Flow in a Microchannel Using the Single Phase Model", Third National and First International Conference on Applied Researches in Electrical, Mechanical and Mechatronic Engineering, Tehran, Iran, 2016. (In Persian)

P. Pournaderi and M. Rayatinezhad, "Numerical Study of Electric Field Effect on a Stationary Dielectric Droplet", 16th Fluid Dynamics Conference, Razi University, Kermanshah, Iran, 2015. (In Persian)

P. Pournaderi, "Simulation of Flame Propagation Using a Sharp Interface Method", 2nd Iranian Conference on Heat and Mass Transfer, Semnan University, Semnan, Iran, 2014.

P. Pournaderi and A. R. Pishavar, "Three Dimensional Simulation of Droplet Impingement on a Surface in the Leidenfrost Regime", 20th Annual International Conference of ISME, Shiraz University, Shiraz, Iran, 2012.

H. Paknemat, A. R. Pishavar and P. Pournaderi, "Numerical Simulation of Perfect Dielectric Droplet Dynamics in a Uniform Electric Field", 19th Annual International Conference of ISME, University of Birjand, Birjand, Iran, 2011.

A. Nematbakhsh, A. R. Pishavar, E. Shirani and P. Pournaderi, "Studying Droplet Impact on a Solid Surface Using Particle Level set Method", 12th Annual Fluid Dynamics Conference, Babol Noshirvani University of Technology, Babol, Iran, 2009.

P. Pournaderi, A. R. Pishavar, E. Shirani and A. Nematbakhsh, "A Level set Approach for Simulation of Incompressible Two Phase Flows", 17th Annual International Conference of ISME, University of Tehran, Iran, 2009.