CURRICULUM VITAE

L e o n i d A . D o m b r o v s k y

Chief Researcher

Joint Institute for High Temperatures

of the Russian Academy of Science

January 2014

1. PERSONAL DETAILS

HOME ADDRESS: Apt. 57, Dolgorukovskaya St. 35,
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DATE OF BIRTH: 10 August 1948.

PLACE OF BIRTH: Moscow, Russia.

CITIZENSHIP: Russian.

2. PRESENT APPOINTMENT

Joint Institute for High Temperatures of the Russian Academy of Science:

Chief Researcher;
Heat Transfer Laboratory;
Division of Thermophysics and Thermal Engineering;
Research Centre of Physical of Thermal Engineering.

3. EDUCATION AND QUALIFICATIONS

Education:

1965–1971: Undergraduate, Moscow Institute of Physics and Technology, Russia

1971–1974: Postgraduate (PhD student), Moscow Institute of Physics and Technology, Russia

Qualifications:

1971: Diploma with honours of Higher Education (Physics) (Aerodynamics and Thermodynamics), Moscow Institute of Physics and Technology, Russia

1974: Diploma of a Candidate of Physical and Mathematical Sciences (PhD, Mechanics of Fluids, Gases, and Plasma), Moscow Institute of Physics and Technology, Russia

1984: Certificate of a Senior Researcher, Russia

1990: Diploma of a Doctor of Engineering Sciences (Theoretical Fundamentals of Heat Transfer), The Research Institute of Thermal Processes, Moscow, Russia.

4. EMPLOYMENT HISTORY

- Joint Institute for High Temperatures, The Russian Academy of Science, Russia.
  Chief Researcher *(June 1996 – cont.)*
- The Research Institute of Thermal Processes, Moscow, Russia.
  Chief Researcher *(1990–1996)*
  Senior Researcher *(1980–1989)*
  Researcher *(1974–1979)*

5. MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Elected Member of the Scientific Council of the International Centre for Heat and Mass Transfer
- Member of the National Committee of Heat and Mass Transfer (Russia); Delegate to the Assembly for International Heat Transfer Conferences
- Member of the Scientific Council on Thermophysics and Thermal Engineering of the Russian Academy of Sciences
- Member of the Optical Society of America
- Member of the American Nano Society

6. AWARDS

The Fifth Radiation Symposium on Radiative Transfer (Bodrum, Turkey, 2007) was dedicated to me and two other scientists (from USA and Canada) in recognition of our valuable contributions to the radiation research field.

7. CONSULTING AND VISITING APPOINTMENTS

1997–1998: *Siemens*, Erlangen, Germany

2001–2003: *Brighton University*, Brighton, UK

2003–2004: *Harbin Institute of Technology*, Harbin, China

2004–2006: *The Thermal Science Centre of Lyon (CETHIL-INSA)*, Lyon, France

2005–2008: *Royal Institute of Technology (KTH)*, Stockholm, Sweden

2007: *Swiss Federal Institute of Technology (ETH)*, Zürich, Switzerland

2009: *The Thermal Science Centre of Lyon (CETHIL-INSA)*, Lyon, France

2010: *Lab. Extreme Condit. & Materials: High Temper. Irradiation (CEMHTI), Univ. Orleans*, Orleans, France

2011–2014: *School of Mech. & Manufact. Engineering, Univ. New South Wales (UNSW)*, Sydney, Australia

2011: *Solar Energy Laboratory, University of Minnesota*, Minneapolis, USA

2012–2013: *Laboratory of Thermal Kinetics (LTN), School of Engineering*, University of Nantes, France

8. MEMBER OF THE EDITORIAL BOARDS

International Journal of Heat and Mass Transfer,

International Communications in Heat and Mass Transfer,

Computational Thermal Sciences,

Thermal Processes in Engineering,

Thermopedia (*A- to Z Guide to Thermodynamics, Heat & Mass Transfer, and Fluid Engineering*),

Journal of Spectroscopy and Dynamics

9. REFEREENG

Referee of papers submitted to:

High Temperature,

Thermal Engineering,

Heat and Mass Transfer,

International Journal of Thermophysics,

Journal of Thermophysics and Heat Transfer,

International Journal of Thermal Sciences,

Journal of Quantitative Spectroscopy and Radiative Transfer,

International Journal of Heat and Mass Transfer,

Numerical Heat Transfer,

ASME Journal of Heat Transfer,

ASME Journal of Solar Energy Engineering,

ASME Journal of Nanotechnology in Engineering and Medicine,

Journal of Alloys and Compounds,

Journal of Composite Materials,

Journal of the American Ceramic Society,

High Temperatures – High Pressures,

Thermal Processes in Engineering,

Experimental Heat Transfer,

Computational Thermal Sciences,

Infrared Physics and Technology,

Optics Express,

Energy and Buildings,

Annals of Nuclear Energy

Journal of Applied Physics.

9. RESEARCH INTERESTS

- Visible, infrared and microwave properties of particles and fibres
- Spectral properties of advanced porous and composite materials
- Radiation heat transfer in disperse systems of different nature
- Combined heat transfer problems in power engineering, biomedicine, and other applications

13. PUBLICATIONS

Books and Book Chapters

1. Dombrovsky L.A. and Baillis D., *Thermal Radiation is Disperse Systems: An Engineering Approach*, Begell House Inc. Publ., New York and Redding (CT), USA, 2010.
2. A continually updated online monograph "*Topics in Particle and Dispersion Science*" (edited by Miroslaw Jonasz).
3. Dombrovsky L.A., Thermal Radiation Modeling in Multiphase Flows Typical of Melt-Coolant Interaction, Chapter 4 in the book "*Advances in Multiphase Flow and Heat Transfer*", edited by L. Cheng and D. Mewes, Bentham Sci. Publ., 2009, vol. 1, pp. 114-157.
4. Dombrovsky L.A., Radiative Properties of Particles and Fibers. *ThermalHUB publication*. (Draft version of Chapter 2 of the book manuscript by L.A. Dombrovsky and D. Baillis "*Thermal Radiation in Disperse systems: An Engineering Approach*").
5. Dombrovsky L.A., Radiative Properties of Particles in Calculations of the Radiation Heat Transfer in Disperse Systems, in *"Mechanical Engineering. Encyclopedia. Vol. 1-2. Theoretical Mechanics, Thermodynamics. Heat Transfer"*, Mashinostroeniye Publ. House, Moscow, 1999, pp. 504-509 (in Russian).
6. Dombrovsky L.A., *Radiation Heat Transfer in Disperse Systems*, Begell House Inc. Publ., New York, Wallingford (UK), 1996.

Refereed Journal Papers

1. Hakoume D., Dombrovsky L.A., Delaunay D., and Rousseau B., Spectroscopic Diagnostics of Morphological Changes Arising in Thermal Processing of Polypropylene, *Applied Optics*, 2014, under review.
2. Gritsevich I.V., Dombrovsky L.A., and Nenarokomov A.V., Radiative Transfer in Vacuum Thermal Insulation of Space Vehicles, *Computational Thermal Sciences*, 2013, in press.
3. Ganesan K., Dombrovsky L.A., Oh T.-S., and Lipiński W., Determination of Optical Constants of Ceria by Combined Analytical and Experimental Approaches, *The Journal of Minerals, Metals & Materials Society (JOM) (special issue on "Materials and Processes for Solar Fuel Technology")*, 2013, vol. 65, n. 12, pp. 1694-1701.
4. Dombrovsky L.A., Randrianalisoa J.H., Lipiński W., and Timchenko V., Simplified Approaches to Radiative Transfer Simulations in Laser Induced Hyperthermia of Superficial Tumors, *Computational Thermal Sciences*, 2013, vol. 5, n. 6, pp. 521-530.
5. Hewakuruppu Y.L., Dombrovsky L.A., Chen C., Timchenko V., Jiang X., Baek S., and Taylor R.A., Plasmonic "Pump-Probe" Method to Study Semi-Transparent Nanofluids, *Applied Optics*, 2013, vol. 52, n. 24, pp. 6041-6050.
6. Hewakuruppu Y.L., Dombrovsky L.A., Timchenko V., Yeoh G.H., Jiang X.C., and Taylor R.A., Optimization of Metallic Nanoshell Suspensions for Radiation Experiments, *Int. J. Transport Phenomena*, 2013, vol. 13, n. 3, pp. 233-244.
7. Baillis D., Coquard R., Randrianalisoa J., Dombrovsky L., and Viskanta R., Thermal Radiation Properties of Highly Porous Cellular Foams, *Special Topics & Reviews in Porous Media – An International Journal*, 2013, vol. 4, no. 2, pp. 111-136.
8. Ganesan K., Dombrovsky L.A., and Lipiński W., Visible and Near-Infrared Optical Properties of Ceria Ceramics, *Infrared Physics and Technology*, 2013, vol. 57, pp. 101-109.
9. Gritsevich I.V., Dombrovsky L.A., and Nenarokomov A.V., Heat Transfer by Radiation in a Vacuum Thermal Insulation of Space Vehicles, *Thermal Processes in Engineering*, 2013, vol. 5, no.1, pp. 12-21 (in Russian).

10. Timchenko V. and Dombrovsky L., Laser Induced Hyperthermia of Superficial Tumors: A Transient Thermal Model for Indirect Heating Strategy, *Computational Thermal Sciences*, 2012, vol. 4, no. 6, pp.457-475.

11. Dombrovsky L., Ganesan K., and Lipiński W., Combined Two-Flux Approximation and Monte Carlo Model for Identification of Radiative Properties of Highly Scattering Dispersed Materials, *Computational Thermal Sciences*, 2012, vol. 4, no. 4, pp. 365-378.

12. Dombrovsky L.A., The Use of Transport Approximation and Diffusion-Based Models in Radiative Transfer Calculations, *Computational Thermal Sciences*, 2012, vol. 4, no. 4, pp. 297-315.

13. Vinnikov V.V., Dombrovsky L.A., Reviznikov D.L., and Sposobin A.V., Thermal Radiation Modeling in Supersonic Gas Flow around a Blunt Body: Effect of Suspended Particles, *Thermal Processes in Engineering*, 2012, vol. 4, no. 7, pp. 312-318 (in Russian).

14. Dombrovsky L.A., Timchenko V., Jackson M., Indirect Heating Strategy of Laser Induced Hyperthermia: An Advanced Thermal Model, *Int. J. of Heat and Mass Transfer*, 2012, v. 55, n. 17-18, pp. 4688-4700.

15. Dombrovsky L.A., Isakaev E.Kh., Senchenko V.N., Chinnov V.F., and Shcherbakov V.V., Efficiency of Acceleration, Heating, and Melting of Particles in High-Enthalpy Plasma Jets, *High Temperature*, 2012, v. 50, n. 2, pp. 145-153.

16. Dombrovsky L.A., Rousseau B., Echegut P., Randrianalisoa J.H., and Baillis D., High Temperature Infrared Properties of YSZ Elecrolyte Ceramics for SOFCs: Experimental Determination and Theoretical Modeling, *J. Amer. Ceramic Society*, 2011, v. 94, n. 12, pp. 4310-4316.

17. Dombrovsky L.A., Timchenko V., Jackson M., and Yeoh G.H., A Combined Transient Thermal Model for Laser Hyperthermia of Tumors with Embedded Gold Nanoshells, *Int. J. of Heat and Mass Transfer*, 2011, v. 54, n. 25-26, pp. 5459-5469.

18. Dombrovsky L.A., Baillis D., and Randrianalisoa J.H., Some Physical Models Used to Identify and Analyze Infrared Radiative Properties of Semi-Transparent Dispersed Materials, *J. of Spectroscopy and Dynamics*, 2011, n. 1, paper 7 (20 pp).

19. Dombrovsky L.A., Randrianalisoa J.H., Lipiński W., and Baillis D., Approximate Analytical Solution to Normal Emittance of Semi-Transparent Layer of an Absorbing, Scattering, and Refracting Medium, *J. of Quantitative Spectroscopy and Radiative Transfer*, 2011, v. 112, n. 12, pp. 1987-1994.

20. Dombrovsky L.A., Solovjov V.P., and Webb B.W., Attenuation of Solar Radiation by Water Mist and Sprays from the Ultraviolet to the Infrared Range, *J. of Quantitative Spectroscopy and Radiative Transfer*, 2011, v. 112, n. 7, pp. 1182-1190.

21. Dombrovsky L.A. and Lipiński W., A Combined P_1 and Monte Carlo Model for Multi-Dimensional Radiative Transfer Problems in Scattering Media, *Computational Thermal Sciences*, 2010, v. 2, n. 6, pp. 549-560.

22. Dombrovsky L.A. and Davydov M.V., Thermal Radiation from the Zone of Melt-Water Interaction, *Computational Thermal Sciences*, 2010, v. 2, n. 6, pp. 535-547.

23. Dombrovsky L.A. and Davydov M.V., Numerical Simulation of Thermal Radiation from the Zone of Core Melt-Water Interaction, *Thermal Processes in Engineering*, 2010, v. 2, n. 6, pp. 262-266 (in Russian).

24. Dombrovsky L., Lallich S., Enguehard F., and Baillis D., An Effect of "Scattering by Absorption" Observed in Near-Infrared Properties of Nanoporous Silica, *J. of Applied Physics*, 2010, v. 107, n. 8, paper 083106.

25. Dombrovsky L.A., An Extension of the Large-Cell Radiation Model for the Case of Semi-Transparent Nonisothermal Particles, *ASME J. of Heat Transfer*, 2010, v. 132, n. 2, paper 023502.

26. Dombrovsky L.A. and Zaichik L.I., An Effect of Turbulent Clustering on Scattering of Microwave Radiation by Small Particles in the Atmosphere, *J. of Quantitative Spectroscopy and Radiative Transfer*, 2010, v. 111, n. 1, pp. 234-242.

27. Dombrovsky L.A. and Zaichik L.I., An Effect of Clustering of Particles on Rayleigh Scattering of Radiation in a Turbulent Flow, *High Temperature*, 2009, v. 47, n. 4, pp. 589-596.

28. Zaichik L.I. and Dombrovsky L.A., Analysis of the Effect of Turbulence on Thermal Radiation Transfer in a Nonscattering Medium, *High Temperature*, 2009, v. 47, n. 3, pp. 367-374.

29. Dombrovsky L., Schunk L., Lipiński W., and Steinfeld A., An Ablation Model for the Thermal Decomposition of Porous Zinc Oxide Layer Heated by Concentrated Solar Radiation, *Int. J. of Heat and Mass Transfer*, 2009, v. 52, n. 11-12, pp. 2444-2452.

30. Dombrovsky L.A., Zalkind V.I., Zeigarnik Yu.A., Marinichev D.V., Nizovskii V.L., Oksman A.A., and Khodakov K.A., Atomization of Superheated Water: Results from Experimental Studies, *Thermal Engineering*, 2009, v. 56, n. 3, pp. 191-200.

31. Dombrovsky L.A., A Model for Solid Bubbles Formation in Melt-Coolant Interaction, *Int. J. of Heat and Mass Transfer*, 2009, v. 52, n. 5-6, pp. 1085-1093.

32. Dombrovsky L.A., Approximate Model for Break-Up of Solidifying Melt Particles Due to Thermal Stresses in Surface Crust Layer, *Int. J. of Heat and Mass Transfer*, 2009, v. 52, n. 3-4, pp. 582-587.

33. Dombrovsky L.A., Davydov M.V., and Kudinov P., Thermal Radiation Modeling in Numerical Simulation of Melt-Coolant Interaction, *Computational Thermal Sciences*, 2009, v. 1, n.1, pp. 1-35.

34. Dombrovsky L.A. and Dinh T.-N., The Effect of Thermal Radiation on the Solidification Dynamics of Metal Oxide Melt Droplets, *Nuclear Engineering and Design*, 2008, v. 238, n. 6, pp. 1421-1429.

35. Dombrovsky L.A., Mineev V.A., Vlasov A.S., Zaichik L.I., Zeigarnik Yu.A., Nedorezov A.B., and Sidorov A.S., In-Vessel Corium Catcher of a Nuclear Reactor, *Nuclear Engineering and Design*, 2007, v. 237, n. 15-17, pp. 1745-1751.

36. Dombrovsky L.A., Tagne H.K., Baillis D., and Gremillard L., Near-Infrared Radiative Properties of Porous Zirconia Ceramics, *Infrared Physics and Technology*, 2007, v. 51, n. 1, pp. 44-53.

37. Dombrovsky L.A., An Estimate of Stability of Large Solidifying Droplets in Fuel-Coolant Interaction, *Int. J. Heat and Mass Transfer*, 2007, v. 50, n. 19-20, pp. 3832-3836.

38. Dombrovsky L.A., Large-Cell Model of Radiation Heat Transfer in Multiphase Flows Typical for Fuel-Coolant Interaction, *Int. J. of Heat and Mass Transfer*, 2007, v. 50, n. 17-18, pp. 3401-3410.

39. Dombrovsky L.A. and Lipinski W., Transient Temperature and Thermal Stress Profiles in Semi-Transparent Particles under High-Flux Irradiation, *Int. J. of Heat and Mass Transfer*, 2007, v. 50, n. 11-12, pp. 2117-2123.

40. Dombrovsky L., Randrianalisoa J., and Baillis D., Infrared Radiative Properties of Polymer Coatings Containing Hollow Microspheres, *Int. J. of Heat and Mass Transfer*, 2007, v. 50, n. 7-8, pp. 1516-1527.

41. Dombrovsky L.A., Lipinski W., and Steinfeld A., A Diffusion-Based Approximate Model for Radiation Heat Transfer in a Solar Thermochemical Reactor, *J. of Quantitative Spectroscopy and Radiative Transfer*, 2007, v. 103, n. 3, pp. 601-610.

42. Dombrovsky L.A., Zaichik L.I., Zeigarnik Yu.A., Mukhtarov E.S., and Sidorov A.S., Calculations of Heat Flowrates to the VVER-440 Reactor Vessel during Interaction of Corium Melt with the Reactor Vessel, *Thermal Engineering*, 2006, v. 53, n. 4, pp. 302-306.

43. Dombrovsky L., Randrianalisoa J., and Baillis D., Modified Two-Flux Approximation for Identification of Radiative Properties of Absorbing and Scattering Media from Directional-Hemispherical Measurements, *J. Optical Soc. Amer. A*, 2006, v. 23, n. 1, pp. 91-98.

44. Dombrovsky L., Randrianalisoa J., Baillis D., and Pilon L., Use of Mie Theory to Analyze Experimental Data to Identify Infrared Properties of Fused Quartz Containing Bubbles, *Applied Optics*, 2005, v. 44, n. 33, pp. 7021-7031.

45. Dombrovsky L.A., Zaichik L.I., Zeigarnik Yu.A., Mukhtarov E.S., and Sidorov A.S., Development of the Corium Bath during the Melting of a VVER-440 Reactor Core, *Thermal Engineering*, 2005, v. 52, n. 5, pp. 396-402.

46. Dombrovsky L.A., Modeling of Thermal Radiation of Polymer Coating Containing Hollow Microspheres, *High Temperature*, 2005, v. 43, n. 2, pp. 247-258.

47. Dombrovsky L.A., Absorption of Thermal Radiation in Large Semi-Transparent Particles at Arbitrary Illumination of the Polydisperse System, *Int. J. of Heat and Mass Transfer*, 2004, v. 47, n. 25, pp. 5511-5522.

48. Dombrovsky L.A., Nonuniform Absorption of Thermal Radiation in Semitransparent Spherical Particles under Conditions of Arbitrary Illumination of a Disperse System, *High Temperature*, 2004, v. 42, n. 6, pp. 975-986.

49. Dombrovsky L.A., Approximate Models of Radiation Scattering in Hollow-Microsphere Ceramics, *High Temperature*, 2004, v. 42, n. 5, pp.776-784.

50. Dombrovsky L.A. and Sazhin S.S., Absorption of External Thermal Radiation in Asymmetrically Illuminated Droplets, *J. of Quantitative Spectroscopy and Radiative Transfer*, 2004, v. 87, n. 2, pp. 119-135.

51. Dombrovsky L.A., Sazhin S.S., and M.R. Heikal, Computational Model of Spectral Radiation Characteristics of Diesel Fuel Droplets, *Heat Transfer Research*, 2004, v. 35, n. 1-2, pp. 52-58.

52. Dombrovsky L.A., The Propagation of Infrared Radiation in a Semitransparent Liquid Containing Gas Bubbles, *High Temperature*, 2004, v. 42, n. 1, pp. 133-139.

53. Dombrovsky L.A., Radiation Transfer through a Vapour Gap under Conditions of Film Boiling of Liquid, *High Temperature*, 2003, v. 41, n. 6, pp. 819-824.

54. Dombrovsky L.A. and Sazhin S.S., Absorption of Thermal Radiation in a Semi-Transparent Droplet: a Simplified Model, *Int. J. of Heat and Fluid Flow*, 2003, v. 24, n. 6, pp. 919-927.

55. Dombrovsky L.A. and Zaichik L.I., Allowance for the Dynamics of a Vapor Bubble in Calculation of Thermal Interaction of a Hot Spherical Particle with Surrounding Water, *Heat Transfer Research*, 2003, v. 34, n. 7-8, pp. 460-470.

56. Dombrovsky L.A. and Sazhin S.S., A Simplified Nonisothermal Model for Droplet Heating and Evaporation, *Int. Comm. Heat and Mass Transfer*, 2003, v. 30, n. 6, pp. 787-796.

57. Dombrovsky L.A. and Sazhin S.S., A Parabolic Temperature Profile Model for Heating of Droplets, *ASME Journal of Heat Transfer*, 2003, v. 125, n. 3, pp. 535-537.

58. Dombrovsky L.A. and Ignatiev M.B., An Estimate of the Temperature of Semitransparent Oxide Particles in Thermal Spraying, *Heat Transfer Engineering*, 2003, v. 24, n. 2, pp. 60-68.

59. Dombrovsky L.A., Sazhin S.S., Mikhalovsky S.V., Wood R., and Heikal M.R., Spectral Properties of Diesel Fuel Droplets, *Fuel*, 2003, v. 82, n. 1, pp. 15-22.

60. Dombrovsky L.A., A Spectral Model of Absorption and Scattering of Thermal Radiation by Droplets of Diesel Fuel, *High Temperature*, 2002, v. 40, n. 2, pp. 242-248.

61. Dombrovsky L.A., A Modified Differential Approximation for Thermal Radiation of Semitransparent Nonisothermal Particles: Application to Optical Diagnostics of Plasma Spraying, *J. of Quantitative Spectroscopy and Radiative Transfer*, 2002, v. 73, n. 2-5, pp. 433-441.

62. Mineev V.N., Akopov F.A., Virnik A.M., Gutkin L.D., Dombrovsky L.A., Zaichik L.I., Zeigarnik Yu.A., Sidorov A.S., Sofronov I.D., and Shagaliev R.M., Schemes of an In-Vessel Corium Catcher, *Thermal Engineering*, 2002, n. 2, pp. 131-136.

63. Alipchenkov V.M., Dombrovsky L.A., and Zaichik L.I., The Growth and Stability of Vapor Film on the Surface of a Hot Spherical Particle, *High Temperature*, 2002, v. 40, n. 1, pp. 100-104.

64. Akopov F.A., Vlasov A.S., Dombrovsky L.A., Zaichik L.I., Zeigarnik Yu.A., Mineev V.N., and Traktuev O.M., Some Problems on Thermal State of the External Corium Catcher and on Selecting its Optimum Structure, *J. of Engineering Physics and Thermophysics*, 2002, v. 75, n. 1, pp. 1-8.

65. Vasilevsky E.B., Dombrovsky L.A., Mikhatulin D.S., and Polezhaev Yu.V., Heat Transfer in the Neighborhood of the Stagnation Point under Conditions of Supersonic Heterogeneous Slip Flow past Bodies, *High Temperature*, 2001, v. 39, n. 6, pp. 860-873.

66. Dombrovsky L.A., Sazhin S.S., Sazhina E.M., Feng G., Heikal M.R., Bardsley M.E.A., and Mikhalovsky S.V., Heating and Evaporation of Semi-Transparent Diesel Fuel Droplets in the Presence of Thermal Radiation, *Fuel*, 2001, v. 80, n. 11, pp. 1535-1544.

67. Dombrovsky L.A. and Zaichik L.I., Conditions of Thermal Explosion of a Radiating Gas with Polydisperse Liquid Fuel, *High Temperature*, 2001, v. 39, n. 4, pp. 604-611.

68. Dombrovsky L.A. and Ignatiev M.B., Inclusion of Nonisothermality of Particles in the Calculations and Diagnostics of Two-Phase Jets Used for Spray Deposition of Coatings, *High Temperature*, 2001, v. 39, n. 1, pp. 134-141.

69. Dombrovsky L.A., Calculation of Radiation Heat Transfer in a Volume above the Surface of a Corium Pool, *Thermal Engineering*, 2001, v. 48, n. 1, pp. 42-49.

70. Dombrovsky L.A. and Zaichik L.I., The Dynamics of Vapor Void under Conditions of Thermal Interaction of a Hot Spherical Particle with Ambient Water, *High Temperature*, 2000, v. 38, n. 6, pp. 938-947.

71. Mineev V.N., Akopov F.A., Virnik A.M., Gutkin L.D., Dombrovsky L.A., Zaichik L.I., Zeigarnik Yu.A., Beshta S.V., Granovsky V.S., Kovtunova S.V., and Khabensky V.B., Use of Refractory Coatings in Systems for Melt Containment in a Serious Accident at a Nuclear Power Plant with a VVÉR Reactor, *Atomic Energy*, 2000, v. 89, n. 5, pp. 868-873.

72. Dombrovsky L.A., Approximate Calculation of Thermal Radiation of Nonisothermal Semitransparent Particles, *High Temperature*, 2000, v. 38, n. 4, pp. 663-665.

73. Dombrovsky L.A., Radiation Heat Transfer from a Hot Particle to Ambient Water through the Vapor Layer, *Int. J. of Heat and Mass Transfer*, 2000, v. 43, n. 13, pp. 2405-2414.

74. Dombrovsky L.A., Thermal Radiation from Nonisothermal Spherical Particle of a semitransparent Material, *Int. J. of Heat and Mass Transfer*, 2000, v. 43, n. 9, pp. 1661-1672.

75. Dombrovsky L.A., Radiation Heat Transfer from a Spherical Particle via Vapor Shell to the Surrounding Liquid, *High Temperature*, 1999, v. 37, n. 6, pp. 912-919.

76. Dombrovsky L.A., Zaichik L.I., and Zeigarnik Yu.A., A Model of Effective Heat Conduction for Calculating Free-Convection Heat Exchange at Large Rayleigh Numbers, *Doklady Physics*, 1999, v. 366, n. 4, pp. 358-361.

77. Dombrovsky L.A., Thermal Radiation of a Spherical Particle of Semitransparent Material, *High Temperature*, 1999, v. 37, n. 2, pp. 260-269.

78. Dombrovsky L.A., Infrared and Microwave Radiative Properties of Metal Coated Microfibers, *Revue Générale de Thermique*, 1998, v. 37, n. 11, pp. 925-933.

79. Dombrovsky L.A., Zaichik L.I., and Zeigarnik Yu.A., Numerical Simulation of the Stratified-Corium Temperature Field and Melting of the Reactor Vessel for a Severe Accident in a Nuclear Power Station, *Thermal Engineering*, 1998, v. 45, n. 9, pp. 755-765.

80. Dombrovsky L.A., Evaluation of the Error of the P1 Approximation in Calculations of Thermal Radiation Transfer in Optically Inhomogeneous Media, *High Temperature*, 1997, v. 35, n. 4, pp. 676-679.

81. Dombrovsky L.A. and Mironov V.P., Application of the Mie Theory to the Microwave Characteristics of Metal Powder in a Dielectric Matrix, *J. of Communications Technology and Electronics*, 1997, v. 42, n. 5, pp. 492-496.

82. Dombrovsky L.A., Radiative Properties of Metalized-Fiber Thermal Insulation, *High Temperature*, 1997, v. 35, n. 2, pp. 275-282.

83. Dombrovsky L.A., Quartz-Fiber Thermal Insulation: Infrared Radiative Properties and Calculation of Radiative-Conductive Heat Transfer, *ASME Journal of Heat Transfer*, 1996, v. 118, n. 2, pp. 408-414.

84. Dombrovsky L.A., A Theoretical Investigation of Heat Transfer by Radiation under Conditions of Two-Phase Flow in a Supersonic Nozzle, *High Temperature*, 1996, v. 34, n. 2, pp. 255-262.

85. Dombrovsky L.A., Approximate Methods for Calculating Radiation Heat Transfer in Dispersed Systems, *Thermal Engineering*, 1996, v. 43, n. 3, pp. 235-243.

86. Dombrovsky L.A., Analysis of Infrared Radiation Characteristics of Isotropic Fiberglass Materials in the Semitransparency Region, *High Temperature*, 1996, v. 34, n. 1, pp. 156-158.

87. Dombrovsky L.A., Calculation of Infrared Radiative Properties of Carbon Fibers and Fibrous Materials, *High Temperature*, 1994, v. 32, n. 6, pp. 895-898.

88. Dombrovsky L.A., Quartz-Fiber Thermal Insulation: Calculation of Spectral Radiation Characteristics in the Infrared Region, *High Temperature*, 1994, v. 32, n. 2, pp. 209-215.

89. Dombrovsky L.A., Yukina E.P., Kolpakov A.V., and Ivanov V.A., Procedure for Calculating the Thermal Destruction of Phenolic Carbon under the Effect of Intensive Infrared Radiation, *High Temperature*, 1993, v. 31, n. 4, pp. 566-572.

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