

# CURRICULUM VITAE

Leonid A. Dombrovsky

Chief Researcher

Joint Institute for High Temperatures  
of the Russian Academy of Science

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## 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 ([ICHMT](#))
- Elected Member of the [Executive Committee of the ICHMT](#)
- Elected Member of the Honours and Awards Committee of the ICHMT
- Elected 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
- Elected Senior Member of the Optical Society of America (OSA)
- Member of the American Nano Society (ANS)
- Member of the American Society of Mechanical Engineers (ASME)
- Member of the American Society of Thermal and Fluid Engineers (ASTFE)

## 6. AWARDS

[The William Begell Medal](#) for Excellence in Thermal Science and Engineering presented at the International Heat Transfer Conference 16, August 14, 2018, China National Convention Center, Beijing, China.

Certificate of Recognition to Leonid A. Dombrovsky **for the American Chemical Society publications reviewing activity** of 2018.

**Graham de Vahl Davis Best Paper Award** for the paper “*Heat generation in gold nanorods solutions due to absorption of near-infrared radiation*” presented at CHT-17, International Symposium on Advances in Computational Heat Transfer, May 28 – June 1, 2017, Napoli, Italy.

According to the recent decision of the International Centre for Heat and Mass Transfer (ICHMT), **Leonid A. Dombrovsky is awarded by [the A.V. Luikov Medal](#)** for outstanding contributions to the science and art of Heat and Mass Transfer and for activities in international cooperation in conjunction with ICHMT programs: <http://www.ichmt.org/page/50/lmedal>

Certificate for **Highly Cited Research** in Infrared Physics and Technology awarded in December, 2016 to **L. Dombrovsky** in recognition of the contribution to the quality of the journal made by: *Visible and near infrared optical properties of ceria ceramics*.

The Fifth Symposium on Radiative Transfer (Bodrum, Turkey, 2007) was dedicated to Leonid Dombrovsky and two other scientists (from USA and Canada) in recognition of their valuable contributions to the radiation research field: <http://old.ichmt.org/rad-07/dedication.html>

## 7. CONSULTING AND VISITING APPOINTMENTS

1997–1998: *Consultant, Siemens, Erlangen, Germany*

2001–2003: *Research Fellow, Brighton University, Brighton, UK (grants from the EPSRC and the UK Royal Society)*

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

2004–2006: *Visiting Professor and Research Fellow, The Thermal Science Centre of Lyon (CETHIL-INSa), Lyon, France*

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

2007: *Consultant and Research Fellow, Swiss Federal Institute of Technology (ETH), Zürich, Switzerland*

2009: *Research Fellow, The Thermal Science Centre of Lyon (CETHIL-INSa), Lyon, France*

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

2011–2015: *Visiting Professor, School of Mech. & Manufact. Engineering, Univ. New South Wales (UNSW), Sydney, Australia*

2011: *Consultant and Research Fellow, Solar Energy Laboratory, University of Minnesota, Minneapolis, USA*

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

June/July 2015: *Visiting Fellow, Faculty of Science, Engineering and Computing, Kingston University London, UK (grant no. DVF1415/2/22 from the UK Royal Academy of Engineering)*

Nov. 2015: *Invited Consultant, Res. School Phys. Eng., The Australian National University (ANU), Canberra, Australia*

Sept. 2017–Febr. 2019: *Distinguished Research Fellow, Faculty of Science, Engineering and Computing, Kingston University London, UK (research project RAD-FIRE (no. 749220) supported by the European Commission, the Marie Skłodowska-Curie Action).*

Oct./Nov. 2017 and June 2018: *Invited Professor, GRESPI Laboratory, University of Reims Champagne-Ardenne (URCA), France*

Nov. 2018: *Invited Professor, Engineering Science Faculty, Ariel University, Ariel, Israel.*

September 2019–August 2020: *Visiting Professor, Faculty of Science, Engineering and Computing, Kingston University London, UK (the visiting professorship supported by The Leverhulme Trust, project no. VP2-2018-010).*

## 8. MEMBER OF THE EDITORIAL BOARDS

[\*International Journal of Heat and Mass Transfer\*](#), [\*Computational Thermal Sciences\*](#), [\*Thermal Processes in Engineering \(in Russian\)\*](#), [\*Thermopedia \(A- to Z Guide to Thermodynamics, Heat & Mass Transfer, and Fluid Engineering\)\*](#), [\*Journal of Spectroscopy and Dynamics\*](#), [\*Thermo\(MDPI – Multidisciplinary Digital Publishing Institute\)\*](#), [\*Atmosphere \(Invited Editor of the Special issue “Levitating Droplet Clusters in Aerosol Science”\)\*](#), [\*High Temperature Material Processes\*](#),

## 9. REFEREENG

### Referee of papers submitted to:

*ACM Transactions on Mathematical Software*  
*Acta Astronautica*  
*Acta of Bioengineering and Biomechanics*  
*AIAA Journal of Thermophysics and Heat Transfer,*  
*Annals of Nuclear Energy,*  
*Applied Optics,*  
*Applied Thermal Engineering,*  
*ASME Journal of Heat Transfer,*  
*ASME Journal of Nanotechnology in Engineering and Medicine,*  
*ASME Journal of Solar Energy Engineering,*  
*Chemical Engineering Journal,*  
*Computational Thermal Sciences,*  
*Computers in Biology and Medicine,*  
*Computer Methods and Programs in Biomedicine*  
*Energy and Buildings,*  
*Experimental Heat Transfer,*  
*Fuel Processing Technology,*  
*Fire,*  
*Frontiers in Heat and Mass Transfer,*  
*Frontiers in Mechanical Engineering,*  
*Heat and Mass Transfer,*  
*Heat Transfer Research,*  
*High Temperature,*  
*High Temperatures – High Pressures,*  
*IEEE Trans. Microwave Theory and Techniques,*  
*Infrared Physics and Technology,*  
*International Journal of Heat and Mass Transfer,*  
*International Journal of Hydrogen Energy,*  
*International Journal of Thermal Sciences,*  
*International Journal of Thermophysics,*  
*International Journal of Fluid Mechanics Research,*  
*Inverse Problems in Science and Engineering,*

*Journal of Alloys and Compounds,*  
*Journal of Applied Physics,*  
*Journal of Coatings Technology and Research,*  
*Journal of Composite Materials,*  
*Journal of Enhanced Heat Transfer,*  
*Journal of Material Science,*  
*Journal of Quantitative Spectroscopy and Radiative Transfer,*  
*Journal of the American Ceramic Society,*  
*Materials and Design*  
*Mathematical Biosciences*  
*Nuclear Engineering and Design*  
*Numerical Heat Transfer,*  
*Optics Express,*  
*Optics Letters,*  
*OSA Continuum,*  
*Physics in Medicine and Biology,*  
*Process Safety and Environmental Protection*  
*Progress in Organic Coatings,*  
*The Journal of Physical Chemistry Letters,*  
*Thermal Engineering,*  
*Thermal Processes in Engineering,*  
*Thermophysics and Aeromechanics,*  
*Scientific Reports,*  
*Solar Energy,*  
*Surface and Coating Technology,*  
*Surface Innovations,*  
*Technical Physics.*

Some Certificates from Elsevier:  
<https://www.reviewerrecognition.elsevier.com/#/profile/a9c89b73-7711-4ec6-b9a2-54785fbc01b0>

## 10. RESEARCH INTERESTS

- Wide-range optical properties of particles and fibres

- Spectral properties of advanced porous and composite materials
- Radiative transfer in disperse systems of different nature
- Combined heat transfer in power engineering, biomedicine, and geophysics

## 11. PARAMETERS OF RESEARCH ACTIVITY

**Scopus:** citations – 2404, h-index – 29

<https://www.scopus.com/authid/detail.uri?authorId=6603682233>

**Google Scholar:** citations – 4466, h-index – 36, i10-index – 95

<https://scholar.google.com/citations?user=w2ZWbH0AAAAAJ&hl=ru>

**Research Gate:** citations – 4469, h-index – 36, RG Score – 49.33

[https://www.researchgate.net/profile/Leonid\\_Dombrovsky](https://www.researchgate.net/profile/Leonid_Dombrovsky)

**Mendeley** <https://www.mendeley.com/profiles/leonid-dombrovsky/>

**ORCID** <http://orcid.org/0000-0002-6290-019X>

## 12. PUBLICATIONS

### Books and Book Chapters

1. Dombrovsky L.A., *Scattering of Radiation and Simple Approaches to Radiative Transfer in Thermal Engineering and Bio-Medical Applications*, Chapter 2 in the book “Springer Series in Light Scattering”, edited by A. Kokhanovsky, Springer, 2019, vol. 4, pp. 72-127.
2. Dombrovsky L.A. and Baillis D., *Thermal Radiation in Disperse Systems: An Engineering Approach*, Begell House, New York, 2010.
3. Online monograph “*Topics in Particle and Dispersion Science*” (edited by Miroslaw Jonasz).
4. 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, 2009, vol. 1, pp. 114-157.
5. 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*”).
6. 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, Moscow, 1999, pp. 504-509 (in Russian).
7. Dombrovsky L.A., *Radiation Heat Transfer in Disperse Systems*, Begell House, New York, 1996.

### Refereed Journal Papers

1. Roy P.K., Legchenkova I., Shoval S., Dombrovsky L.A., Bormashenko E., Osmotic Growth of Composite Liquid Marbles, *J. Coll. Interface Sci.*, 2021, under review.
2. Fedorets A.A., Frenkel M., Shcherbakov D.V., Dombrovsky L.A., Nosonovsky M., and Bormashenko E., Branched Droplet Clusters and the Kramers Theorem, *Soft Matter*, 2021, under review.
3. Frenkel M., Fedorets A.A., Dombrovsky L.A., Nosonovsky M., Legchenkova I., and Bormashenko E., Continuous Symmetry Measure vs Voronoi Entropy of Droplet Clusters, *J. Phys. Chem. C*, 2021, in press.
4. Bormashenko E., Fedorets A.A., Dombrovsky L.A., and Nosonovsky M., Survival of Virus Particles in Water Droplets: Hydrophobic Forces and Landauer’s Principle, *Entropy*, 2021, vol. 23, 181.
5. Dombrovsky L.A. and Mendeleyev V.Ya., Interaction of Low-Power Laser Radiation with Nanoparticles Formed over the Copper Melt in Rarefied Argon Atmosphere, *Thermo*, 2021, vol. 1, no. 1, pp 1-14.

6. Fedorets A.A., Shcherbakov D.V., Dombrovsky L.A., Bormashenko E., and Nosonovsky M., Impact of Surfactants on the Formation and Properties of Droplet Clusters, *Langmuir*, 2020, vol. 36, no. 37, 11154-11160.
7. Dombrovsky L.A., Fedorets A.A., V.Yu. Levashov, A.P. Kryukov, Bormashenko E., and Nosonovsky M., Modeling Evaporation of Water Droplets as Applied to Survival of Airborne Viruses, *Atmosphere, special issue "Levitating Droplet Clusters in Aerosol Science"*, 2020, vol. 11, no. 9, 965.
8. Dombrovsky L.A., Fedorets A.A., V.Yu. Levashov, A.P. Kryukov, Bormashenko E., and Nosonovsky M., Stable Cluster of Identical Water Droplets Formed Under the Infrared Irradiation: Experimental Study and Theoretical Modeling, *Int. J. Heat Mass Transfer*, 2020, vol. 161, 120255.
9. Dombrovsky L.A., Frenkel M., Legchenkova I., and Bormashenko E., Effect of Thermal Properties of a Substrate on Formation of Self-Arranged Surface Structures on Evaporated Polymer Films, *Int. J. Heat Mass Transfer*, 2020, vol. 158, 120053.
10. Fedorets A.A., Bormashenko E., Dombrovsky L.A., and Nosonovsky M., Symmetry of Small Clusters of Levitating Water Droplets, *Physical Chemistry Chemical Physics*, 2020, vol. 22, no. 21, pp. 12239-12244.
11. Dombrovsky L.A. and Kokhanovsky A.A., Solar Heating of Ice Sheets Containing Gas Bubbles, *J. Quant. Spectr. Radiat. Transfer*, 2020, vol. 250, 106991.
12. Fedorets A.A., Dombrovsky L.A., Gabyshev D.N., Bormashenko E., and Nosonovsky M., Effect of External Electric Field on Dynamics of Levitating Water Droplets, *Int. J. Therm. Sci.*, 2020, vol. 153, 106375.
13. Dombrovsky L.A., Levashov V.Yu., Kryukov A.P., Dembele S., and Wen J.X., A Comparative Analysis of Shielding of Thermal Radiation of Fires Using Mist Curtains Containing Droplets of Pure Water or Sea Water, *Int. J. Therm. Sci.*, 2020, vol. 152, 106299.
14. Bormashenko E., Fedorets A.A., Frenkel M., Dombrovsky L.A., and Nosonovsky M., Clustering and Self-Organization in Small Scale Natural and Artificial Systems, *Philos. Trans. Royal Soc. A*, 2020, vol. 378, 20190443.
15. Dombrovsky L.A. and Kokhanovsky A.A., Light Absorption by Polluted Snow Cover: Internal Versus External Mixture of Soot, *J. Quant. Spectr. Radiat. Transfer*, 2020, vol. 242C, 106799.
16. Dombrovsky L.A. and Kokhanovsky A.A. Corrigendum to "The influence of pollution on solar heating and melting of a snowpack [JQSRT 233 (2019) 42–51]", *J. Quant. Spectr. Radiat. Transfer*, 2020, vol. 241, 106733.
17. Fedorets A.A., Frenkel M., Legchenkova I., Shcherbakov D., Dombrovsky L., Nosonovsky M., and Bormashenko E., Self-Arranged Levitating Droplet Clusters: A Reversible Transition from Hexagonal to Chain Structure, *Langmuir*, 2019, vol. 35, pp. 15330-15334.
18. Fedorets A.A., Aktaev N.E., Gabyshev D.N., Bormashenko E., Dombrovsky L.A., and Nosonovsky M., Oscillatory Motion of a Droplet Cluster, *J. Phys. Chem. C*, 2019, vol. 123, no. 38, pp. 23572-23576.
19. Vlaskin M.S., Grigorenko A.V., Chernova N.I., Kiseleva S.V., Lipatova I.A., Popel O.S., and Dombrovsky L.A., The Hydrothermal Liquefaction as a Promising Procedure for Microalgae-to-Biofuel Production: A General Review and Some Thermophysical Problems to be Solved, *High Temper. – High Press.*, 2019, vol. 49, no. 4, pp. 309-351.
20. Fedorets A.A., Bormashenko E., Dombrovsky L.A., and Nosonovsky M., Droplet Clusters: Nature-Inspired Biological Reactors and Aerosols, *Philos. Trans. Royal Soc. A*, 2019, vol. 377, 20190121.
21. Dombrovsky L.A. and Kokhanovsky A.A., The Influence of Pollution on Solar Heating and Melting of a Snowpack, *J. Quant. Spectr. Radiat. Transfer*, 2019, vol. 233, pp. 42-51.
22. Dombrovsky L.A., Kokhanovsky A.A., and Randrianalisoa J.H., On Snowpack Heating by Solar Radiation: A Computational Model, *J. Quant. Spectr. Radiat. Transfer*, 2019, vol. 227, pp. 72-85.
23. Fedorets A.A., Dombrovsky L.A., Bormashenko E., and Nosonovsky M., On Relative Contribution of Electrostatic and Aerodynamic Effects to Dynamics of a Levitating Droplet Cluster, *Int. J. Heat Mass Transfer*, 2019, vol. 133, pp. 712-717.
24. Bormashenko E., Frenkel M., Vilik A., Legchenkova I., Fedorets A.A., Aktaev N.A., Dombrovsky L.A., and Nosonovsky M., Characterization of Self-Assembled 2D Patterns with Voronoi Entropy, *Entropy*, 2018, vol. 20, 956.
25. Soufiani A., Haussener S., and Dombrovsky L.A., Computational Problems of Thermal Radiation in Aerospace Engineering, *High Temper. Mater. Proc.*, 2018, vol. 22, no. 2-3, pp. 161-184.

26. Frenkel M., Dombrovsky L.A., Multanen V., Danchuk V., Legchenkova I., Shofal S., Bormashenko Y., Binks B.P., and Bormashenko E., Self-Propulsion of Water-Supported Liquid Marbles Filled with Sulfuric Acid, *J. Phys. Chem. B*, 2018, vol. 122, no. 32, pp. 7936-7942.
27. Dombrovsky L., Henry J.-F., Lorreyte C., Pron H., and Randrianalisoa J., Optical Properties of Oakwood in the Near-Infrared Range of Semi-Transparency, *Appl. Optics*, 2018, vol. 57, no. 23, pp. 6657-6663.
28. Dombrovsky L.A., Dembele S., Wen J.X., and Sikic I., Two-Step Method for Radiative Transfer Calculations in a Developing Pool Fire at the Initial Stage of its Suppression by a Water Spray, *Int. J. Heat Mass Transfer*, 2018, vol. 127 (part B), pp. 717-726.
29. Fedorets A.A., Aktaev N.E., and Dombrovsky L.A., Suppression of the Condensational Growth of Droplets of a Levitating Cluster Using the Modulation of the Laser Heating Power, *Int. J. Heat Mass Transfer*, 2018, vol. 127 (part A), pp. 660-664.
30. Gu X., Timchenko V., Yeoh G.H., Dombrovsky L., and Taylor R., The Effect of Gold Nanorods Clustering on Near-Infrared Radiation Absorption, *Appl. Sci.* (special issue "Nanofluids and their Applications"), 2018, vol. 8, no. 7, 1132.
31. Dombrovsky L.A., Dembele S., and Wen J.X., An Infrared Scattering by Evaporating Droplets at the Initial Stage of a Pool Fire Suppression by Water Sprays, *Infrared Phys. Technol.*, 2018, vol. 91, pp. 55-62.
32. Dombrovsky L.A. and Randrianalisoa J.H., Directional Reflectance of Optically Dense Planetary Atmosphere Illuminated by Solar Light: An Approximate Solution and its Verification, *J. Quant. Spectr. Radiat. Transfer*, 2018, vol. 208, pp. 78-85.
33. Dombrovsky L.A. and Lipiński W., Simple Methods for Identification of Radiative Properties of Highly-Porous Ceria Ceramics in the Range of Semi-Transparency, *Int. J. Numer. Meth. Heat Fluid Flow*, 2017, vol. 27, no. 5, pp. 1108-1117.
34. Dombrovsky L.A., Reviznikov D.L., Kryukov A.P., and Levashov V.Yu., Self-Generated Clouds of Micron-Sized Particles as a Promising Way of a Solar Probe Shielding from Intense Thermal Radiation of the Sun, *J. Quant. Spectr. Radiat. Transfer*, 2017, vol. 200, pp. 234-243.
35. Fedorets A.A., Dombrovsky L.A., and Ryumin P.I., Expanding of Temperature Range for Generation of Droplet Clusters over the Locally Heated Water Surface, *Int. J. Heat Mass Transfer*, 2017, vol. 113, pp. 1054-1058.
36. Krainova I.V., Dombrovsky L.A., Nenarokomov A.V., Budnik S.A., Titov D.M., and Alifanov O.M., A Generalized Analytical Model for Radiative Transfer in Vacuum Thermal Insulation of Space Vehicles, *J. Quant. Spectr. Radiat. Transfer*, 2017, vol. 197, pp. 166-172.
37. Mendeleyev V.Ya., Kachalov V.V., Kurilovich A.V., and Dombrovsky L.A., Abnormally Strong Decrease in Reflectance of Molten Copper due to Possible Generation of Levitating Sub-Micron Melt Droplets, *Int. J. Heat Mass Transfer*, 2017, vol. 113, pp. 53-58.
38. Fedorets A.A., Frenkel M., Shulzinger E., Dombrovsky L.A., Bormashenko E., and Nosonovsky M., Self-Assembled Levitating Clusters of Water Droplets: Pattern-Formation and Stability, *Sci. Reports*, 2017, vol. 7, 1888, 6 pp.
39. Nenarokomov A.V., Dombrovsky L.A., Krainova I.V., Alifanov O.M., and Budnik S.A., Identification of Radiative Heat Transfer Parameters in Multilayer Thermal Insulation of a Spacecraft, *Int. J. Numer. Meth. Heat Fluid Flow*, 2017, vol. 27, no. 3, pp. 598-614.
40. Lisitsyn A.V., Grigorenko A.V., and Dombrovsky L.A., Kinetics of High-Temperature Thermal Treatment of Boehmite-Based Alumina in Vacuum to Produce Pure Alumina, *Int. J. Heat Mass Transfer*, 2017, vol. 110, pp. 314-318.
41. Dombrovsky L.A., Dembele S., and Wen J.X., Shielding of Fire Radiation with the Use of Multi-Layered Mist Curtains: Preliminary Estimates, *Comput. Therm. Sci.*, 2016, vol. 8, no. 4, 371-380.
42. Dombrovsky L.A., Steam Explosion in Nuclear Reactors: Droplets of Molten Steel vs Core Melt Droplets, *Int. J. Heat Mass Transfer*, 2017, vol. 107, pp. 432-438.
43. Fedorets A.A. and Dombrovsky L.A., Generation of Levitating Droplet Clusters above the Locally Heated Water Surface: A Thermal Analysis of Modified Installation, *Int. J. Heat Mass Transfer*, 2017, vol. 104, pp. 1268-1274.
44. Lisitsyn A.V., Dombrovsky L.A., Mendeleyev V.Ya., Grigorenko A.V., Vlaskin M.S., and A.Z. Zhuk, Near-Infrared Optical Properties of a Porous Alumina Ceramics Produced by Hydrothermal Oxidation of Aluminum, *Infrared Phys. Technol.*, 2016, vol. 77, pp. 162-170.
45. Dombrovsky L.A., Fedorets A.A., and Medvedev D.N., The Use of Infrared Irradiation to Stabilize Levitating Clusters of Water Droplets, *Infrared Phys. Technol.*, 2016, vol. 75, pp. 124-132.



46. Dombrovsky L.A., A New Method to Retrieve Spectral Absorption Coefficient of Highly-Scattering and Weakly-Absorbing Materials, *J. Quant. Spectr. Radiat. Transfer*, 2016, vol. 172, pp. 75-82.
47. Dombrovsky L.A., Dembele S., and Wen J.X., A Simplified Model for the Shielding of Fire Thermal Radiation by Water Mists, *Int. J. Heat Mass Transfer*, 2016, vol. 96, pp. 199-209.
48. Dombrovsky L.A., Reviznikov D.L., and Sposobin A.V., Radiative Heat Transfer from Supersonic Flow with Suspended Particles to a Blunt Body, *Int. J. Heat Mass Transfer*, 2016, vol. 93, pp. 853-861.
49. Reviznikov D.L., Sposobin A.V., and Dombrovsky L.A., Computational Analysis of Radiative Heat Transfer from Supersonic Flow with Suspended Polydisperse Particles to a Blunt Body: Effects of Collisions Between Particles, *Comput. Therm. Sci.*, 2015, vol. 7, no. 4, pp. 313-325.
50. Fedorets A.A., Dombrovsky L.A., and Medvedev D.N., Effect of Infrared Irradiation on the Suppression of the Condensation Growth of Water Droplets in a Levitating Droplet Cluster, *JETP Lett.*, 2015, v. 102, n. 7, pp. 452-454.
51. Dombrovsky L.A., Nenarokomova N.B., Tsiganov D.I., and Zeigarnik Yu.A., Modeling of Repeating Freezing of Biological Tissues and Analysis of Possible Microwave Monitoring of Volumetric Phase Changes, *Int. J. Heat Mass Transfer*, 2015, vol. 89, pp. 894-902.
52. Fedorets A.A., Dombrovsky L.A., and Smirnov A.M., The Use of Infrared Self-Emission Measurements to Retrieve Surface Temperature of Levitating Water Droplets, *Infrared Phys. Technol.*, 2015, vol. 69, pp. 238-243.
53. Dombrovsky L.A., Timchenko V., Pathak C., Piazena H., Müller W., and Jackson M., Radiative Heating of Superficial Human Tissues with the Use of Water-Filtered Infrared-A Radiation: A Computational Modeling, *Int. J. Heat Mass Transfer*, 2015, vol. 85, pp. 311-320.
54. Dombrovsky L.A. and Timchenko V.M., Laser Induced Hyperthermia of Superficial Tumors: Computational Models for Radiative Transfer, Combined Heat Transfer, and Degradation of Biological Tissues, *Therm. Proc. Eng.*, 2015, vol. 7, n. 1, pp. 24-36 (in Russian).
55. Randrianalisoa J.H., Dombrovsky L.A., Lipiński W., and Timchenko V., Effects of Short-Pulsed Laser Radiation on Transient Heating of Superficial Human Tissues, *Int. J. Heat Mass Transfer*, 2014, vol. 78, pp. 488-497.
56. Dombrovsky L.A., Zeigarnik Yu.A., and Tsyganov D.I., Modeling of Repeating Freezing of Biological Tissues Considered as Two-Component Disperse Systems, *Therm. Proc. Eng.*, 2014, vol. 6, n. 9, pp. 403-409 (in Russian).
57. Dombrovsky L.A. and Reviznikov D.L., Radiative Heat Transfer in Supersonic Gas Flow with Suspended Particles to a Blunt Body: A Comparison of Different Models, *Therm. Proc. Eng.*, 2014, vol. 6, n. 7, pp. 294-300 (in Russian).
58. Gritsevich I.V., Dombrovsky L.A., and Nenarokomov A.V., Radiative Transfer in Vacuum Thermal Insulation of Space Vehicles, *Comput. Therm. Sci.*, 2014, vol. 6, n. 2, pp. 103-111.
59. Hakoume D., Dombrovsky L.A., Delaunay D., and Rousseau B., Spectroscopic Diagnostics of Morphological Changes Arising in Thermal Processing of Polypropylene, *Appl. Optics*, 2014, vol. 53, n. 12, pp. 2702-2711.
60. 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.
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## Invited and keynote lectures

1. Dombrovsky L.A., Computational Model for Combined Heat Transfer in a Snowpack Heated by Solar Radiation, *Proc. 21th School-Seminar "Problems of Gas Dynamics and Heat and Mass Transfer in Power Plants"*, May 20-24, 2019, Moscow, Russia (in Russian).
2. Fedorets A.A. and Dombrovsky L.A., Self-Assembled Stable Clusters of Droplets over the Locally Heated Water Surface: Milestones of the Laboratory Study and Potential Biochemical Applications, *Proc. 16th Int. Heat Transfer Conf.*, Aug. 10-15, 2018, Beijing, China, IHTC16-KN02.
3. Dombrovsky L.A. Laser and Thermal Radiation in Disperse Systems: A Review of Some Recent Studies, Nov. 12, 2018, Ariel University, Israel.
4. Dombrovsky L.A., Reviznikov D.L., Kryukov A.P., and Levashov V.Yu., A New Concept of a Solar Probe Shielding from Intense Thermal Radiation of the Sun, *Radiation Panel of the 7th Int. Symp. Adv. Comput. Heat Transfer (CHT-17)*, Napoli, May 28–June 1, 2017.
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14. Dombrovsky L.A., Special Features of Radiative Heat Transfer in Thermal Interaction of Corium Melt Droplets and Ambient Water, *Proc. 16th School-Seminar "Problems of Heat and Mass Transfer and Gas Dynamics in Power Plants"*, Saint-Petersburg, Russia, 21-25 May 2007, v. 2, pp. 9-12 (in Russian).

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3. Fedorets A.A., Dombrovsky L.A., Bormashenko E., and Nosonovsky M., Levitating Clusters of Water Droplets: Physics, Mathematics, Chemical Engineering, and Biology, *Proc. Int. Conf. "Wetting Dynamics"*, 28-30 Sept., 2020, Bonn, Germany.
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