

Elena V. Shulepova

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EDUCATION

- 2020- Present Ph.D. student
Specialization “Mathematical modeling of convective heat transfer in multi-connected regions in the presence of internal energy sources” at Tomsk State University, Russia
- 2020 Master’s degree in Fluid Mechanics, Tomsk State University, Russia
- 2018 Bachelor’s degree in Fluid Mechanics, Tomsk State University, Russia

AREAS OF INTEREST

Natural convection
Conjugate convection
Heat and mass transfer
Numerical analysis, mathematical modeling
Heat transfer and flow pattern in electronic systems
Computational fluid dynamics
Newtonian fluid
A doubly connected domain with one/two local sources of constant/variable volumetric heat generation

PUBLICATIONS

Journal papers

1. Shulepova E.V., Sheremet M.A., Oztop H.F., Abu-Hamdeh N. Mixed convection of Al₂O₃-H₂O nanoliquid in a square chamber with complicated fin // *International Journal of Mechanical Sciences*. 2020. Vol. 165. P. 105192.

2. Shulepova E.V., Sheremet M.A., Oztop H.F., Abu-Hamdeh N. Mixed convection-radiation in lid-driven cavities with nanofluids and time-dependent heat-generating body // *Journal of Thermal Analysis and Calorimetry*. 2021. Vol. 146, № 2. P. 725-738.
3. Shulepova E.V., Sheremet M.A., Oztop H.F. Natural convection of Al₂O₃-water nanosuspension in a semi-open domain with composite fin // *Physics of Fluids*. 2021. Vol. 33, № 3. P. 033606.

Conference Proceedings

1. Shulepova E.V., Sheremet M.A. Hydrodynamics of a submerged jet in a rectangular channel // All-Russian Youth Scientific Conference "All Facets of Mathematics and Mechanics" (April 24-28, 2018): collection of abstracts. Tomsk: TSU Publishing House, 2018. p. 72.
2. Bondareva N.S., Sheremet M.A., Shulepova E.V. Effect of nanoparticles on heat transfer inside a closed radiator filled with paraffin // Modern problems of mechanical engineering: collection of scientific papers of the XII International Scientific and Technical Conference. Tomsk: Publishing House of the Tomsk Polytechnic University, 2019. pp. 228-230
3. Bondareva N.S., Shulepova E.V. Investigation of the influence of the phase transition temperature on the cooling process of elements // Prospects for the development of fundamental sciences : collection of scientific papers of the XVII International Conference of Students, Postgraduates and Young Scientists, April 21-24, 2020, Russia, Tomsk : in 7 vol. 3 : Mathematics. Tomsk: TUSUR Publishing House, 2020. pp. 20-22.
4. Shulepova E.V. Influence of the position of the internal source of periodic volumetric heat release on the structure of convective flow in a closed two-connected cavity // Prospects for the development of fundamental sciences : collection of scientific papers of the XVIII International Conference of Students, Postgraduates and Young Scientists, Tomsk, April 27-30, 2021 : in

- 7 vol. 3: Mathematics. Tomsk: Publishing House of the Tomsk Polytechnic University, 2021. pp. 100-102.
5. Shulepova E.V., Sheremet M.A. Free convection of a viscous liquid in a two-connected region with two local sources of constant volumetric heat release // XXXVII Siberian Thermophysical seminar dedicated to the Year of Science and Technology of the Russian Federation and the 60th anniversary of the first human flight into Space: All-Russian conference with elements of a scientific school for young scientists, September 14-16, 2021, Novosibirsk: abstracts of reports. Novosibirsk, 2021. p. 171.
 6. Shulepova E.V., Sheremet M.A. Free convection of a viscous liquid in a doubly connected region with a periodically heat-releasing element // Problems of gas dynamics and heat and mass transfer in power plants : abstracts of reports of the XXIII School-seminar of Young scientists and specialists led by Academician of the Russian Academy of Sciences A.I. Leontiev, May 24-28, 2021, Yekaterinburg. Moscow: Publishing House of MEI, 2021. pp. 64-65.
 7. Shulepova E.V. Internal heat-conducting body effect on natural convection strength in a differentially-heated cavity// Prospects for the development of fundamental sciences : collection of scientific papers of the XIX International Conference of Students, Postgraduates and Young Scientists, Tomsk, April 26-29, 2022 : in 7 vol. 3: Mathematics. Tomsk: Publishing House of the Tomsk Polytechnic University, 2022. pp. 42-44.
 8. Shulepova E.V., Sheremet M.A. Influence of the size of the heat-conducting block on the intensity of free convective heat exchange in a closed cavity //All-Russian Youth Scientific Conference "All Facets of Mathematics and Mechanics" (May 23-27, 2022).
 9. Shulepova E.V., Sheremet M.A. Influence of the angle of inclination of the cavity and the internal heat-conducting unit on the intensity of natural convection in the differentially heated area//XXXVIII Siberian Thermophysical seminar dedicated to the 65th anniversary of the S.S.

Kutateladze Institute of Thermophysics SB RAS: All-Russian conference with elements of a scientific school for young scientists, August 29-31, 2022, Novosibirsk: abstracts of reports. Novosibirsk, 2022. p. 273.