

Department of Aeronautical Engineering

Publication details (Last 5 Years)

Dr S Jeyakumar / Senior- Professor

1. Jeyakumar, S., Assis, S. M., & Jayaraman, K. (2017). Experimental study on the characteristics of axisymmetric cavity actuated supersonic flow. *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, 231(14), 2570-2577.
2. Athithan, A. A., Jeyakumar, S., Sczygiol, N., Urbanski, M., & Hariharasudan, A. (2021). The combustion characteristics of double ramps in a strut-based scramjet combustor. *Energies*, 14(4), 831.
3. Jeyakumar, S., Assis, S. M., & Jayaraman, K. (2018). Effect of axisymmetric aft wall angle cavity in supersonic flow field. *International Journal of Turbo & Jet-Engines*, 35(1), 29-34.
4. Sarathkumar Sebastin, J., Jeyakumar, S., & Karthik, K. (2021). The non-reacting flow characteristics of pylon and wall injections in a dual combustion ramjet engine. *International Journal of Engine Research*, 14680874211017856.
5. Karthik, K., Jeyakumar, S., & Sebastin, J. S. (2021). Optimization of wavy cylinder for aerodynamic drag and aeroacoustic sound reduction using computational fluid dynamics analysis. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 0954406220950353.
6. Jeyakumar, S., & Jayaraman, K. (2018). Effect of finite width cavity in axisymmetric supersonic flow field. *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, 232(1), 180-184.
7. Karthik, K., Jeyakumar, S., & Sebastin, J. S. (2021). Numerical prediction of flow noise levels on towed sonar array. *Proceedings of the Institution of Mechanical Engineers, Part M: Journal of Engineering for the Maritime Environment*, 235(2), 600-606.
8. Athithan, A. A., Jeyakumar, S., Sekar, K., & Alagirisamy, M. (2020). Numerical Analysis of Strut-Based Scramjet Combustor with Ramps Under Non-reacting Flow Field. *Intelligent Computing and Innovation on Data Science*, 329.
9. Relangi, N., Garimella, D., Jayaraman, K., Venkatesan, J., Jeyakumar, S., & Ingenito, A. (2020). Numerical simulations of axisymmetric aft wall angle cavity in supersonic combustion ramjets. *Proceedings of the AIAA Propuls, Energy*, 1-15.
10. Relangi, N., Ingenito, A., & Jeyakumar, S. (2021). The Implication of Injection Locations in an Axisymmetric Cavity-Based Scramjet Combustor. *Energies*, 14(9), 2626.
11. Jayaraman, K., Sivakumar, P. M., Zarrabi, A., Sivakumar, R., & Jeyakumar, S. (2021). Combustion Characteristics of Nanoaluminium-Based Composite Solid Propellants: An Overview. *Journal of Chemistry*, 2021.
12. Relangi, N., Garimella, D., Jayaraman, K., Venkatesan, J., Jeyakumar, S., & Ingenito, A. (2020). Computational Simulation of Axis Symmetric Aft Wall Angle Cavity in Supersonic Flow Field. In *AIAA Propulsion and Energy 2020 Forum* (p. 3712).
13. Athithan, A. A., Jeyakumar, S., Sczygiol, N., Urbanski, M., & Hariharasudan, A. (2021). The Combustion Characteristics of Double Ramps in a Strut-Based Scramjet Combustor. *Energies* 2021, 14, 831.
14. Jeyakumar, S., Venkateshwaran, V., Surjith, N., Raja, A. K., & Samy, G. S. (2017). Experimental Investigations on Aft Ramp Cavities with Fore Wall Modifications in Scramjet Combustors. In *Fluid Mechanics and Fluid Power—Contemporary Research* (pp. 1203-1212). Springer, New Delhi.

15. Suppandipillai, J., Kandasamy, J., Sivakumar, R., Karaca, M., & Karthik, K. (2021). Numerical investigations on the hydrogen jet pressure variations in a strut based scramjet combustor. *Aircraft Engineering and Aerospace Technology*.
16. Assis, S. M., Suppandipillai, J., & Kandasamy, J. (2019). Transverse Injection Experiments within an Axisymmetric Scramjet Combustor. *International Journal of Turbo & Jet-Engines*.
17. Jayaraman, K., Gökalp, I., & Jeyakumar, S. (2017). Estimation of synergetic effects of CO₂ in high ash coal-char steam gasification. *Applied Thermal Engineering*, 110, 991-998.
18. Jeyakumar, S., Kandasamy, J., Karaca, M., Karthik, K., & Sivakumar, R. (2021). Effect of hydrogen jets in supersonic mixing using strut injection schemes. *International Journal of Hydrogen Energy*, 46(44), 23013-23025.

Dr S Arunvinthan / HOD & Associate- Professor

1. Arunvinthan, S., Pillai, S. N., & Cao, S. (2020). Aerodynamic characteristics of variously modified leading-edge protuberanced (LEP) wind turbine blades under various turbulent intensities. *Journal of Wind Engineering and Industrial Aerodynamics*, 202, 104188.
2. Ganesh, N., Arunvinthan, S., & Pillai, S. N. (2019). Effect of surface blowing on aerodynamic characteristics of tubercled straight wing. *Chinese Journal of Aeronautics*, 32(5), 1111-1120.
3. Arunvinthan, S., & Pillai, S. N. (2019). Aerodynamic characteristics of unsymmetrical aerofoil at various turbulence intensities. *Chinese Journal of Aeronautics*, 32(11), 2395-2407.
4. Kaushikh, K., Arunvinthan, S., & Pillai, S. N. (2018). Aerodynamics and Aerothermodynamics of undulated re-entry vehicles. *Acta Astronautica*, 142, 95-102.
5. Arunvinthan, S., Raatan, V. S., Pillai, S. N., Pasha, A. A., Rahman, M. M., & Juhany, K. A. (2021). Aerodynamic characteristics of shark scale-based vortex generators upon symmetrical airfoil. *Energies*, 14(7), 1808.
6. Arunvinthan, S., Gopal, R., Chandrasekar, V. K., & Pillai, S. N. (2019). Estimation of nonlinear surface pressure characteristics of aerofoil: A 0-1 test approach. *AIP Advances*, 9(5), 055204.
7. RAJ, C. A. S., NARASIMHAVARADHAN, M., VAISHNAVI, N., ARUNVINTHAN, S., AL ARJANI, A., & PILLAI, S. N. (2020). Aerodynamics of ducted re-entry vehicles. *Chinese Journal of Aeronautics*, 33(7), 1837-1849.
8. Dhileep, K., Arunvinthan, S., & Pillai, S. N. (2019). Aerodynamic Characteristics of Semi-spiroid Winglets at Subsonic Speed. In *Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering (I-DAD 2018)* (pp. 217-224). Springer, Singapore.
9. Sundaresan1a, A., Arunvinthan1b, S., Pasha2c, A. A., & Pillai, S. N. (2021). Effect of Ice accretion on the aerodynamic characteristics of wind turbine blades. *Wind and Structures*, 32(3), 205-217.
10. Mano, S., Arunvinthan, S., & Pillai, S. N. (2020). Experimental investigation of downstream wake characteristics of NACA 0015 Airfoil. *Journal of Applied Science and Engineering*, 23(4), 603-609.

Dr R Senthil Kumar/ Associate- Professor

1. Senthil Kumar Raman, Kexin, W., Kim, T. H., Suryan, A., & Kim, H. D. (2020). Effects of flap on the reentry aerodynamics of a blunt cone in the supersonic flow. *International Journal of Mechanical Sciences*, 176(February 2019), 105396. <https://doi.org/10.1016/j.ijmecsci.2019.105396>
2. Senthil Kumar Raman, Kim, T. H., & Kim, H. D. (2019). A novel algorithm to estimate the CO₂ flows across the critical point with real gas effects. *International Journal of Heat and Mass Transfer*, 142. <https://doi.org/10.1016/j.ijheatmasstransfer.2019.07.013>
3. Senthil Kumar Raman, & Kim, H. D. (2018). Solutions of supercritical CO₂ flow through a convergent-divergent nozzle with real gas effects. *International Journal of Heat and Mass Transfer*, 116, 127–135. <https://doi.org/10.1016/j.ijheatmasstransfer.2017.09.019>
4. Senthil Kumar Raman, & Kim, H. D. (2018). A new equation of state to predict S-CO₂ flow with real gas effects. *Journal of Mechanical Science and Technology*, 32(3), 1099–1104. <https://doi.org/10.1007/s12206-018-0212-y>
5. Senthil Kumar Raman, & Kim, H. (2018). Computational Analysis of the Performance Characteristics of a Supercritical CO₂ Centrifugal Compressor. *Computation*, 6(4), 54. <https://doi.org/10.3390/computation6040054>

Dr Rajasekarababu KB/ Associate- Professor

1. Rajasekarababu, K. B., Vinayagamurthy, G., & Rajan, S. S. (2019, October). Experimental and computational investigation of outdoor wind flow around a setback building. In *Building Simulation* (Vol. 12, No. 5, pp. 891-904). Tsinghua University Press.
2. Rajasekarababu, K. B., & Vinayagamurthy, G. (2019). Experimental and computational simulation of an open terrain wind flow around a setback building using hybrid turbulence models. *Journal of Applied Fluid Mechanics*, 12(1), 145-154.
3. Rajasekarababu, K. B., & Vinayagamurthy, G. (2020). CFD validation of wind pressure distribution on a tall building under the influence of upstream terrain. *Progress in Computational Fluid Dynamics, an International Journal*, 20(5), 284-298.
4. Rajasekarababu, K. B., & Vinayagamurthy, G. (2019). Computational Simulation of Wind Flow Behavior Around a Building Structure. In *Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering (I-DAD 2018)* (pp. 325-331). Springer, Singapore.
5. Rajasekarababu, K. B., & Vinayagamurthy, G. (2021). Assessment of Local Pressure Coefficient Over Conventional and Unconventional Tall Buildings. In *Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering* (pp. 325-333). Springer, Singapore.
6. Rajasekarababu, K. B., Prabhakaran, S. A., Vinayagamurthy, G., & Sivakumar, R. (2021, April). CFD simulation for pedestrian comfort and wind safety in VIT campus for wind resource management. In *IOP Conference Series: Materials Science and Engineering* (Vol. 1128, No. 1, p. 012002). IOP Publishing.

Dr K Karthik / Associate- Professor

1. Karthik, K., Vishnu, M., Vengadesan, S., & Bhattacharyya, S. K. (2018). Optimization of bluff bodies for aerodynamic drag and sound reduction using CFD analysis. *Journal of Wind Engineering and Industrial Aerodynamics*, 174, 133-140.
2. Karthik, K., Vengadesan, S., & Bhattacharyya, S. K. (2018). Prediction of flow induced sound generated by cross flow past finite length circular cylinders. *The Journal of the Acoustical Society of America*, 143(1), 260-270.
3. Karthik, K., Jeyakumar, S., & Sebastin, J. S. (2021). Optimization of wavy cylinder for aerodynamic drag and aeroacoustic sound reduction using computational fluid dynamics analysis. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 0954406220950353.
4. Karthik, K., Jeyakumar, S., & Sebastin, J. S. (2021). Numerical prediction of flow noise levels on towed sonar array. *Proceedings of the Institution of Mechanical Engineers, Part M: Journal of Engineering for the Maritime Environment*, 235(2), 600-606.
5. Suppandipillai, J., Kandasamy, J., Sivakumar, R., Karaca, M., & Karthik, K. (2021). Numerical investigations on the hydrogen jet pressure variations in a strut based scramjet combustor. *Aircraft Engineering and Aerospace Technology*.
6. Sarathkumar Sebastin, J., Jeyakumar, S., & Karthik, K. (2021). The non-reacting flow characteristics of pylon and wall injections in a dual combustion ramjet engine. *International Journal of Engine Research*, 14680874211017856.
7. Jeyakumar, S., Kandasamy, J., Karaca, M., Karthik, K., & Sivakumar, R. (2021). Effect of hydrogen jets in supersonic mixing using strut injection schemes. *International Journal of Hydrogen Energy*, 46(44), 23013-23025.

Mr J Sarathkumar Sebastin / Assistant- Professor

1. Karthik, K., Jeyakumar, S., & Sebastin, J. S. (2021). Optimization of wavy cylinder for aerodynamic drag and aeroacoustic sound reduction using computational fluid dynamics analysis. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 0954406220950353.
2. Karthik, K., Jeyakumar, S., & Sebastin, J. S. (2021). Numerical prediction of flow noise levels on towed sonar array. *Proceedings of the Institution of Mechanical Engineers, Part M: Journal of Engineering for the Maritime Environment*, 235(2), 600-606.
3. Sarathkumar Sebastin, J., Jeyakumar, S., & Karthik, K. (2021). The non-reacting flow characteristics of pylon and wall injections in a dual combustion ramjet engine. *International Journal of Engine Research*, 14680874211017856.