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PRINCIPAL RESEARCH OF INTEREST:

- PCM
- Solar Energy
- Energy
- Heat Transfer
- CFD

PUBLICATIONS:

1. Babu, A. K., **G. Kumaresan**, V. Antony Aroul Raj, and R. Velraj. "CFD studies on different configurations of drying chamber for thin-layer drying of leaves." *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 42, no. 18 (2020): 2227-2239.
2. Santosh, R., **G. Kumaresan**, S. Monisha, G. Krishna Kumar, and R. Velraj. "Experimental Evaluation of PVA as Novel Humidifier Material for Humidification-Dehumidification Applications." *Journal of Testing and Evaluation* 49, no. 4 (2020).
3. Babu, A. K., **G. Kumaresan**, V. Raj, and R. Velraj. "Experimental Investigations of Thin-layer Drying of Leaves in a Heat-Pump Assisted Tray-type Batch Drying Chamber." *Strojniski Vestnik/Journal of Mechanical Engineering* 66, no. 4 (2020).
4. Santosh, R., **G. Kumaresan**, G. Krishna Kumar, and R. Velraj. "Experimental parametric investigation of waste heat powered humidification dehumidification system for production of freshwater from wastewater." *Desalination* 484 (2020): 114422.
5. Selvaraj, Suppurayan, **Govindaraj Kumaresan**, and Mohammed Ali Jagabar Sathik. "Modified "K"-type multilevel inverter topology with reduced switches, DC sources, and power loss." *International Transactions on Electrical Energy Systems* 30, no. 5 (2020): e12345.
6. Santosh, R., **G. Kumaresan**, S. Selvaraj, T. Arunkumar, and R. Velraj. "Investigation of humidification-dehumidification desalination system through waste heat recovery from household air conditioning unit." *Desalination* 467 (2019): 1-11.
7. **Kumaresan, G.**, R. Santosh, H. Revanth, G. Raju, and Suvanjan Bhattacharyya. "CFD and experimental analysis of phase change material behaviour encapsulated in internally finned spherical capsule." (2019).
8. Vigneswaran, V. S., **G. Kumaresan**, B. V. Dinakar, K. Karthick Kamal, and R. Velraj. "Augmenting the productivity of solar still using multiple PCMs as heat energy storage." *Journal of Energy Storage* 26 (2019): 101019.

9. Pramothraj, M., R. Santosh, M. R. Swaminathan, and **G. Kumaresan**. "Study of effect of Al and Cu microparticles dispersed in D-Mannitol PCM for effective solar thermal energy storage." *Journal of Thermal Analysis and Calorimetry* 139, no. 2 (2020): 895-904.
10. Vigneswaran, V. S., **G. Kumaresan**, S. Elansezhiyan, and R. Velraj. "Heat transfer studies on solar still assisted with and without latent heat storage material." *DESALINATION AND WATER TREATMENT* 140 (2019): 1-6.
11. Santosh, R., T. Arunkumar, R. Velraj, and **G. Kumaresan**. "Technological advancements in solar energy driven humidification-dehumidification desalination systems-A review." *Journal of Cleaner Production* 207 (2019): 826-845.
12. Babu, A. K., **G. Kumaresan**, V. Antony Aroul Raj, and R. Velraj. "CFD studies on different configurations of drying chamber for thin-layer drying of leaves." *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 42, no. 18 (2020): 2227-2239.
13. **Kumaresan, G.**, R. Santosh, G. Raju, and R. Velraj. "Experimental and numerical investigation of solar flat plate cooking unit for domestic applications." *Energy* 157 (2018): 436-447.
14. Babu, A. K., **G. Kumaresan**, V. Antony Aroul Raj, and R. Velraj. "Review of leaf drying: Mechanism and influencing parameters, drying methods, nutrient preservation, and mathematical models." *Renewable and Sustainable Energy Reviews* 90 (2018): 536-556.
15. **Kumaresan, Govindaraj**, Ravichandran Santosh, Ponnukutti Duraisamy, Ramar Venkatesan, and Nathamani Satheesh Kumar. "Numerical analysis of baffle cut on shell side heat exchanger performance with inclined baffles." *Heat Transfer Engineering* 39, no. 13-14 (2018): 1156-1165.
16. **Govindaraj, Kumaresan**, Karthik Panchabikesan, David C. Denkenberger, and Velraj Ramalingam. "Effect of fin orientations in a spherically encapsulated phase change materials for effective heat transfer enhancement." *Chemical Engineering Transactions* 62 (2017): 277-282.
17. Sudhakar, P., **G. Kumaresan**, and R. Velraj. "Experimental analysis of solar photovoltaic unit integrated with free cool thermal energy storage system." *Solar Energy* 158 (2017): 837-844.
18. Hariharan, Kandasamy, Gowri Sankar Senthil Kumar, **Govindaraj Kumaresan**, and Ramalingam Velraj. "Investigation on phase change behavior of paraffin phase change material in a spherical capsule for solar thermal storage units." *Heat Transfer Engineering* 39, no. 9 (2018): 775-783.
19. **Kumaresan, G.**, P. Sudhakar, R. Santosh, and R. Velraj. "Experimental and numerical studies of thermal performance enhancement in the receiver part of solar parabolic trough collectors." *Renewable and Sustainable Energy Reviews* 77 (2017): 1363-1374.
20. Vigneswaran, V. S., **G. Kumaresan**, P. Sudhakar, and R. Santosh. "Performance evaluation of solar box cooker assisted with latent heat energy storage system for cooking application." In *IOP Conference Series: Earth and Environmental Science*, vol. 67, no. 1. 2017.
21. **Kumaresan, Govindaraj**, Ravichandran Santosh, Ponnukutti Duraisamy, Ramar Venkatesan, and Nathamani Satheesh Kumar. "Numerical analysis of baffle cut on shell side heat exchanger performance with inclined baffles." *Heat Transfer Engineering* 39, no. 13-14 (2018): 1156-1165.

22. **Kumaresan, G.**, V. S. Vigneswaran, S. Esakkimuthu, and R. Velraj. "Performance assessment of a solar domestic cooking unit integrated with thermal energy storage system." *Journal of Energy Storage* 6 (2016): 70-79.
23. Babu, Ayyasamy Krishnamoorthy, V. ANTONY AROUL Raj, and **G. Kumaresan**. "Misfire Detection in A Multi-Cylinder Diesel Engine: A Machine Learning Approach." *J. Eng. Sci. Technol* 11, no. 2 (2016): 278-295.
24. Shaafi, T., K. Sairam, A. Gopinath, **G. Kumaresan**, and R. Velraj. "Effect of dispersion of various nanoadditives on the performance and emission characteristics of a CI engine fuelled with diesel, biodiesel and blends—a review." *Renewable and Sustainable Energy Reviews* 49 (2015): 563-573.
25. Gopinath, A., K. Sairam, R. Velraj, and **G. Kumaresan**. "Effects of the properties and the structural configurations of fatty acid methyl esters on the properties of biodiesel fuel: a review." *Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering* 229, no. 3 (2015): 357-390.
26. **Kumaresan, G.**, G. Raju, S. Iniyan, and R. Velraj. "CFD analysis of flow and geometric parameter for a double walled solar cooking unit." *Applied Mathematical Modelling* 39, no. 1 (2015): 137-146.