

LIST OF PUBLICATIONS

Book Chapters:

1. Biswajit Gorai, **Satyabrata Sahoo**. *Energetic and exergetic analysis of an ejector based green refrigeration system employing evaporative cooling in the gas cooler*, Book Chapter: Advances in Thermofluids and Renewable Energy (Chapter 8) (ISBN: 978-981-16-3496-3) Springer Singapore (2021)
2. Gautam, **Satyabrata Sahoo**, *Heat and Mass Transfer Analysis of Cylindrical and Spherical Reactors for CO₂-based Adsorption systems*, In Fluid Mechanics and Fluid Power (Vol. 1), Lecture Notes in Mechanical Engineering Springer Nature Singapore Pte Ltd. (eBook ISBN978-981-19-7055-9) (2023)
3. Shakya G, Chaudhuri S, **Sahoo S**. *Numerical and Analytical investigation on pressure and shear driven flow of Sisko fluid*. In Fluid Mechanics and Fluid Power (Vol. 3) Select Proceedings of FMFP 2021 2023 Apr 18 (pp. 7-12). Singapore: Springer Nature Singapore.

Publications in Journals:

1. Gautam, Chaudhary, A, **Sahoo, S.**; *Experimental investigation on adsorbent composites for CO₂ capture application: An attempt to improve the dynamic performance of the parent adsorbent*, **International Journal of Heat and Mass Transfer** 203 (2023) 123796.
2. Gautam, Serafin, J, Vikram S, Dziejarski, B, **Sahoo, S.**; *An environmentally friendly synthesis method of activated carbons based on subabul (Leucaena leucocephala) sawdust waste for CO₂ adsorption*. **Journal of Cleaner Production** 422 (2023) 137406
3. Gautam, Chaudhary, A, **Sahoo, S.**; *Exploring the feasibility of next-generation CO₂-based adsorption cooling systems using different adsorbent reactor configurations*. **Energy Conversion and Management** 288 (2023).
4. Gautam, Chaudhary, A, **Sahoo, S.**; *Comparative studies on thermal-hydraulic performance of adsorption vessels for CO₂ storage*, **Heat Transfer Engineering** (Accepted)

5. Kumar, G, **Sahoo, S.**; *Thermodynamic Analysis of a Compression-Driven Adsorption-Based Cooling System Using CO₂ as the Refrigerant*. **Journal of The Institution of Engineers (India): Series C**. 2023.
6. Chaudhary, A Gautam, **Sahoo, S**; *Thermal management and optimization of the reactor geometry for adsorbed natural gas storage systems subjected to free convection and radiative environment*, **Journal of Natural Gas Science and Engineering** 109 (2023) 104851
7. Gautam, **Sahoo, S**, Sah, R P; *A review on adsorption isotherms and kinetics of CO₂ and various adsorbent pairs suitable for carbon capture and green refrigeration applications*, **Sadhana** (2023) accepted
8. Gautam, **Sahoo, S.**; *A Comprehensive Thermodynamic Analysis and Performance Evaluation of A Transcritical Ejector Expansion CO₂ Adsorption Refrigeration System Integrated With Thermoelectric Sub-cooler*, **The Journal of Supercritical Fluids** 182 (2022) 105517.
9. Gautam, Sahoo, S.; *Experimental investigation on different activated carbons as adsorbents for CO₂ capture*, **Thermal Science and Engineering Progress** 33 (2022) 101339
10. Biswajit Gorai, **Sahoo, S**, Gautam; *Comparative Exergy Analysis and Environmental Impact of a Dairy Plant Integrated with a Transcritical Heat Pump System: A Feasibility of Throttle Valve, Expander, and an Ejector as Expansion Devices*, **Arabian Journal for Science and Engineering** 48 (2022) 3503–3521
11. Gautam, **Sahoo, S.**; *Thermal management and optimization of adsorption vessels for CO₂-based green refrigeration systems: A heat and mass transfer approach*, **Sadhana**, **46 (246)** (2021).
12. Kinage, A., **Sahoo, S.**, Chaudhuri S.; *Effects of different electrical arrangements, and Thomson effect on the system performance as well as the optimum allocation of thermocouples in a self-driven two-stage TEC & TEC*; **Journal of Thermal Science and Engineering Progress** 25 (2021) 101035
13. Chaudhuri S, Sihna S, Chakraborty P., Das M., **Sahoo, S.**, Das, B.; *Thermal characteristics of forced convection in combined pressure and shear-driven flow of a non-Newtonian third-grade fluid through parallel plates*; **Heat Transfer Wiley** 50 (2021) 6737–6756.
14. Gautam , Kumar, G. , **Sahoo, S.**; *Performance improvement and comparisons of CO₂ based adsorption cooling system using modified cycles employing various adsorbents:*

- A comprehensive study of subcritical and transcritical cycles*; **International Journal of Refrigeration**, **112** (2020) 136-154
15. Gupta A., Gautam, **Sahoo, S.** Mohanty A. *Performance evaluation of porous fin with prescribed tip temperature: An analytical and numerical approach*; **International Journal of Heat and Mass Transfer**, **156** (2020) 119736.
 16. Gautam, **Sahoo, S.** *Effects of geometric and heat transfer parameters on adsorption–desorption characteristics of CO₂ -activated carbon pair*; **Clean Technology and Environmental Policy**, DOI 10.1007/s10098-020-01866-3 (2020)
 17. Chaudhuri S., **Sahoo S.** *Characterization of Fully Developed Pressure-Driven, Shear-Driven and Combined Pressure and Shear Driven Flow of Sisko Fluids Through Rectangular Channels*; **Arabian Journal of Science and Engineering** DOI 10.1007/s13369-020-04621-4 (2020)
 18. Inampudi, S. T., Marhi, Baji, **Sahoo, S.**; *Entropy Generation in Water- Based Natural Circulation Loop*; **ASME Journal of Heat Transfer(ASME)** **140** (2018) 092501-1-11
 19. Dash S.M., **Sahoo S.**; *A study on natural convection in a cold square enclosure with two vertical eccentric square heat sources using IB-LBM scheme*; **Journal of Thermal Science and Engineering Applications (ASME)**. Accepted (2019) DOI:10.1115/1.4042858
 20. Patil, K., **Sahoo, S.**; *Charge characteristics of adsorbed natural gas storage systems based on MAXSORB III*; **Journal of Natural Gas Science and Engineering** 52, (2018) 267-282.
 21. Chaudhuri, S., **Sahoo, S.**; *Effects of aspect ratio on the flow characteristics of magnetohydrodynamic (MHD)third grade fluid flow through a rectangular channel*; **Sadhana** Accepted (2018).
 22. Sahoo, S., Ramgopal, M.; *Experimental studies on an indigenous coconut shell based activated carbon suitable for natural gas storage*; **Sadhana** 41(4) (2016) 459-468.
 23. Sahoo, S., Ram Gopal M., *Regression equation for predicting discharge performance of adsorbed natural gas storage systems*; **Applied Thermal Engineering** 86 (2015) 127–134.
 24. Sahoo, S., Ram Gopal, M., *A simple regression equation for predicting charge characteristics of adsorbed natural gas storage systems*; **Applied Thermal Engineering** 73 (1) (2014) 1095–1102.

25. Sahoo, S., Ram Gopal, M.; *Theoretical performance of adsorbed natural gas storage systems subjected to variable charge-discharge conditions*; **International Journal of Ambient energy** 37 (2016) 372–376.
26. Sahoo, S., Ram Gopal, M.; Comparative study on charge-discharge characteristics of different activated carbon based *adsorbed natural gas storage systems*; **Journal of Energy Heat and Mass Transfer** 36 (2014) 63–80.
27. Sahoo, S., Ram Gopal, M.; *Charge-discharge characteristics of an adsorbed natural gas storage system under ambient conditions*; **Applied Mechanics and Materials** 592 (2014) 1448–1455.
28. Sahoo, S., Ram Gopal, M., *A new tank configuration for large scale storage of natural gas in adsorbed form*; **International Journal of Petrochemical Science and Engineering** 3 (1) (2017)
29. Sahoo, S., Ram Gopal, M., *Simulation of an adsorbed natural gas storage system for large scale storage*; **Journal of Energy Heat and Mass Transfer** 38 (2016) 11-30

Publications in International Conferences:

1. Sahoo, S., Ram Gopal, M.; *Charge-discharge characteristics of an adsorbed natural gas storage system under ambient conditions*; International Mechanical Engineering Congress 2014, June 13-15, NIT Tiruchirapalli, India.
2. Sahoo, S., Ram Gopal, M.; *Performance of Adsorbed natural gas storage system subjected to different boundary conditions*; International symposiums on aspects of mechanical engineering and technology for industry (AMATI 2014), December 6-8, NERIST Itanagar, India.
3. Sahoo, S., Ram Gopal, M.; *Simulation of an adsorbed natural gas storage system for large scale storage*; 23rd National Heat and Mass transfer conference and 1st international ISHMT-ASTFE heat and mass transfer conference IHMTTC-2015. December 17-20, Thiruvananthapuram, India.
4. Sahoo, S., Modi, A, Caudhuri, S.; *Pressure driven flow of a third grade fluid through a narrow channel with viscous dissipation*; Proceedings of the 6th international and 43rd national conference on fluid mechanics and fluid power. December 15-17, 2016 MNNITA, Allahabad, U.P., India.
5. Sahoo, S., Ram Gopal, M., Caudhuri, S.; *Heat and mass transfer studies on adsorbed natural gas storage system*; Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2017), December 27-30, 2017, BITS Pilani, Hyderabad, India
6. Gautam, Sahoo, S. ; *Water as Energy Storage Medium for CO₂ Adsorption*. In Proceedings of the 25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019). Begel House Inc. DOI: 10.1615/IHMTTC-2019.340

7. Gautam, **Sahoo, S.**; *Effects of Geometric as well as Heat Transfer Parameters on Adsorption Characteristics of CO₂ and Activated Carbon Pair*; 12th International Conference on Thermal Engineering: Theory and Application ,February 23-26, 2019, PDPU, Gandhinagar, India [ICTEA-2019]
8. Gorai, B, **Sahoo, S.**; *Energetic and exergetic analysis of an ejector based green refrigeration system employing evaporative cooling in the gas cooler* TFRE-2020 26th - 28th November 2020, NIT Arunachal Pradesh, India. (**Best Paper Award**).
9. Gautam, **Sahoo, S.**; *Heat and Mass Transfer Analysis of Cylindrical and Spherical Reactors for CO₂-based Adsorption systems*, Proceedings of 48th National Conference on Fluid Mechanics and Fluid Power [FMFP 2021], BITS Pilani, Pilani Campus, Rajasthan, India, 27 - 29 December 2021. (**Best Paper Award**).
10. Shakya G., Chaudhuri, S., **Sahoo S.**; *Numerical and Analytical investigation on pressure and shear driven flow of Sisko fluid*, Proceedings of 48th National Conference on Fluid Mechanics and Fluid Power [FMFP 2021], BITS Pilani, Pilani Campus, Rajasthan, India, 27 -29 December 2021.
11. Gautam, **Sahoo, S.**; *Heat and Mass Transfer Analysis of Cylindrical and Spherical Reactors for CO₂-based Adsorption systems*, Proceedings of 48th National Conference on Fluid Mechanics and Fluid Power [FMFP 2021], BITS Pilani, Pilani Campus, Rajasthan, India, 27 - 29 December 2021. (**Best Paper of the Session Award**)
12. Gautam, Chaudhary, A., Singh, A. and **Sahoo, S.**; Modeling *and Simulation of Cylindrical and Spherical Adsorbent Reactors for Maxsorb III-CO₂ pair-based Adsorption Heat Pumps*, In Proceeding of 9th International and 49th National Conference of FMFP (FMFP-2022), Dec 14-16, 2022, IIT Roorkee, India.
13. Chaudhary, A., Gautam, and **Sahoo, S.**; *Performance Enhancement of an Adsorbed Natural Gas Storage System Using Various Nanofluids: A Heat and Mass Transfer Approach*, In Proceeding of 4th International Conference on Recent Advances in Mechanical Infrastructure (ICRAM-2022), Dec 16-18, 2022, IITRAM Ahmedabad, India.
