

Total publications - 122

Journals - SCI - 16, Scopus indexed - 28, Other refereed - 8 no.

Conference Papers – International - 59, National – 11, Scopus indexed - 3, ASME – 5.

INTERNATIONAL CONFERENCE PAPERS:

- 1) Sangeeta Kohli, M.R.Ravi, R.Subbarao, 'Mass Flow Measurement in Buoyancy Induced Flow through a vertical Tube' Proceedings of the 5th **ASME-ISHMT** Heat & Mass Transfer Conference, Calcutta, 2002, pp. 796-801. (ISBN- 0070474435 9780070474437)
- 2) Senthil Vadivel, Rayapati Subbarao, P.M.V.Subbarao, 'Performance characteristics of Solid Oxide Fuel Cell and its upstream fuel processing options', Proceedings of the International conference on Sustainable Energy Development, New Delhi, 2006, pp. 256-265.
- 3) Rayapati Subbarao, Senthil Vadivel, P.M.V.Subbarao, 'Thermodynamic modelling of Solid Oxide Fuel Cell – Gas Turbine power plant', Proceedings of the [International Congress on Renewable Energy \(ICORE\), Hyderabad, 2006, pp. 531-538](#). (ISBN: 81-7764-756-3)
- 4) V.U.Senthil Vadivel, Rayapati Subbarao, P.M.V.Subbarao, 'Mathematical modeling of incorporated Physico-Electrochemical processes and polarization distinctiveness in Solid Oxide Fuel Cells', Proceedings of the International Conference on Modelling and Simulation, Kuala Lumpur, pp. 771-778, 2006.
- 5) Rayapati Subbarao, V.U.Senthil Vadivel, P.M.V.Subbarao, 'Performance Analysis of Hybrid Solid Oxide Fuel Cell – Gas Turbine Power Generating System' Proceedings of the **World Renewable Energy Congress - IX**, Italy, 2006, FC-41. (ISBN : 008044671X 9780080446714).
- 6) Rayapati Subbarao, V.U.Senthil Vadivel, P.M.V.Subbarao, 'Mathematical Modelling of Activation Overpotential in High Temperature Fuel Cells', Proceedings of the 3rd **BSME-ASME** International Conference on Thermal Engineering, 2006, Dhaka, Bangladesh, BA-144.
- 7) Rayapati Subbarao and M.Govardhan, 'Effect of axial gap on the aerodynamics of a single stage turbine', Proceedings of the International Conference on Recent Advances & Challenges in Energy, India, 2012, MS-48.
- 8) Rayapati Subbarao and M.Govardhan, 'Effect of axial gap on the aerodynamics of 1 and 1.5 stage turbines', Proceedings of the 15th International Conference on Applied Mechanics and Mechanical Engineering, **AMME-15**, Egypt, 2012, 73.
- 9) Rayapati Subbarao and M.Govardhan, 'Effect of axial spacing between the components on the performance of a counter rotating turbine', Proceedings of International Symposium on Fluid Mechanics and Fluid Engineering, **ISFMFE**, Korea, 2012, 1325.
- 10) Rayapati Subbarao and M.Govardhan, 'Effect of speed ratio on the performance and flow field of a counter rotating turbine', 4th International Conference on Advances in Energy Research, **IIT Bombay**, 2013, 281. (ISBN: 97-81-928795-0-5)
- 11) Rayapati Subbarao and M.Govardhan, 'Computational studies on the effect of speed ratio and stagger angle in a counter rotating turbine with respect to flow field and performance', **703**, 5th International and 41st National Conference on Fluid Mechanics and Fluid Power, **IIT Kanpur**, 2014. (Springer book, ISBN 978-81-322-2741-0)
- 12) Karanam Bharatkumar and Rayapati Subbarao, 'Modification of contact tip to reduce defects and cost involved in robot welding', **129**, International conference on advances in production and industrial engineering, **NIT Trichy**, 2015.
- 13) Koganti Meghana and Rayapati Subbarao, 'Design, development and fabrication of 6 dof biped robot', **166**, International Conference on Advances in Production and Industrial Engineering, **NIT Trichy**, 2015.
- 14) A.H.Teja, and Rayapati Subbarao and Chava Rajesh, 'Performance and emissions analysis of a diesel engine using various bio-fuels', **88**, International Conference on Mechanical and Manufacturing Engineering, SCSVMV University, Kanchipuram, India, 2015.

- 15) A.H.Teja, Rayapati Subbarao, 'Experimental studies on diesel engine with piston crown modification using an optimum alternative fuel', **102**, International Conference on Mechanical and Manufacturing Engineering, SCSVMV University, Kanchipuram, India, 2015.
- 16) Rayapati Subbarao and M.Govardhan, 'Computational studies on flow through blade rows in a counter rotating turbine', **CF183**, International Conference on Computer Aided Engineering (CAE-2015), Hyderabad, India, 2015.
- 17) Rayapati Subbarao and M.Govardhan, 'Performance studies on a counter rotating turbine and comparison with axial flow turbine configuration', **CF184**, International Conference on Computer Aided Engineering (CAE-2015), Hyderabad, India, 2015.
- 18) Rayapati Subbarao and A.H.Teja, 'Testing of various bio-fuels and engine modifications along with customized air gap in a diesel engine', International Conference on Advances in Chemical Engineering (ICACE2015), **79**, **NIT Karnataka**, India, 2015.
- 19) Sai Sarath Kruthiventi, Subbarao Rayapati, Sai Nikhil Velpula and Manideep Parmi, 'Experimental studies involving flow visualization over non-circular geometries', **98**, International Conference on Advances in Chemical Engineering (ICACE2015), **NIT Karnataka**, India, 2015.
- 20) A.H.Teja and Rayapati Subbarao, 'Investigations on the performance of various bio-fuels along with low thermal conductivity piston crown in a diesel engine', International conference on Innovative Design & Development Practices in Aerospace and Automotive Engineering, Chennai, Veltech University, pp. 39, **2016**.
- 21) K.Saisarat, Rayapati Subbarao, I.D.Murty, Ravi Gujjula, 'Influence of heat treatment on mechanical and micro structural properties of titanium alloys for enhanced applications', **ID-Amm-376**, International Conference on Advancements in Materials for Manufacturing (ICAAMM), **2016**.
- 22) Rayapati Subbarao and M.Govardhan, 'Parametric studies on the performance of a counter rotating turbine', **175**, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power (FMFP-2016), **MNIT Allahabad**, **2016**.
- 23) Samrat Mandal and Rayapati Subbarao, 'Temperature and residual stress analysis of welded joint of different grades of stainless steel', **260**, 4th International Conference on Production and Industrial Engineering (CPIE – 2016), **NIT Jalandhar**, **2016**.
- 24) Sai Sarath Kruthiventi, Rayapati Subbarao, M.Chiranjeevi, Abid Ali, 'Computational and experimental studies on the flow arrangement over flat plates of different configurations', **ISME-TE-197**, 1st international and 18th ISME Conference on Enabling Sustainable Development (ISME 2017), **NIT Warangal**, 2017.
- 25) Rayapati Subbarao and Sadananda Chakraborty, 'Microscopic studies on the characteristics of different alloys suitable for gas turbine components', MAT 251, International Conference on Materials Manufacturing and Modelling (ICMMM - 2017), **VIT University**, 2017.
- 26) Rayapati Subbarao and K. Saisarath, 'Viability of biofuels as an alternative to petroleum based fuels in an internal combustion engine for transportation', International Conference on Trends and Advanced Research in Green Energy Technologies (ICTARGET-2017), **VIT University**, 2017.
- 27) K. Ashokachary, Rayapati Subbarao, D. Gopi, 'Study of flow physics over cylinders for improved performance of wind turbines', International Conference on Trends and Advanced Research in Green Energy Technologies (ICTARGET-2017), **VIT University**, 2017.
- 28) V.Dhana Raju, P.S. Kishore, R. Subbarao, 'Investigations on the Effects of Diethyl Ether as Fuel Additive in Diesel Engine Fueled with Tamarind Seed Methyl Ester', International Conference on "Advances in Energy Research, **IIT Bombay**, 2017.
- 29) Rayapati Subbarao, 'Studies on the feasibility of biofuels and their blends for usage in diesel engines with respect to performance and fuel consumption', ICIME-1118, International Conference on Innovations in Mechanical Engineering, Hyderabad, India, 2018.
- 30) Rayapati Subbarao, M. Govardhan, 'Blade-To-Blade Flow Distribution in a Counter Rotating Turbine with Flow Rate', ID – 118, Asian Joint Workshop on Thermophysics and Fluid Science, **AJWTF 7**, 2018.

- 31) Rayapati Subbarao, Flow Rate and Axial Gap Studies on One and a Half Stage Axial Flow Turbine, ID – 118, Asian Joint Workshop on Thermophysics and Fluid Science, **AJWTF 7**, 2018.
- 32) Rayapati Subbarao, M. Govardhan, Studies on the Pattern of Flow Amendment with Axial Gap in a Counter Rotating Turbine, 715, 7th International and 45th National Conference on Fluid Mechanics and Fluid Power (**FMFP**), **IIT Bombay**, 2018.
- 33) Rayapati Subbarao and Mukul Kashiwal, Computational Design and Analysis of a Piston with different Head Thicknesses and Top Land Widths, International Conference on Emerging Trends in Mechanical Engineering, SRIT, 2018. (**Best Paper Award**)
- 34) Rayapati Subbarao, Effect of flow rate on a Two-Stage Axial Flow Turbine with Respect to Losses and Performance, 220, 12th International Conference on Thermal Engineering: Theory and Applications, **Pandit Deendayal Petroleum University**, Gandhinagar, India, 2019.
- 35) Rayapati Subbarao and Satya Vart Gupta, Finite Element Analysis on the Suitability of Different Al Alloys for Piston in an Internal Combustion Engine, 174, 12th International Conference on Thermal Engineering: Theory and Applications, **Pandit Deendayal Petroleum University**, Gandhinagar, India, 2019.
- 36) Rayapati Subbarao and Rathijit Dey, Selection of Lathe Spindle Material Based On Static and Dynamic Analysis Using Finite Element Method, GEN 255, International Conference on Materials Manufacturing and Modelling (ICMMM - 2019), **VIT University**, Vellore, 2019.
- 37) Rayapati Subbarao and Satya Vart Gupta, Thermal and structural analyses of an internal combustion engine piston with suitable different super alloys, MAT 6003, International Conference on Materials Manufacturing and Modelling (ICMMM - 2019), **VIT University**, Vellore, 2019.
- 38) Rayapati Subbarao and M. Govardhan, 'Identification of wake convection and flow outline in the interface region of blade rows with axial gap in a counter rotating turbine', GTINDIA2019-2634, Proceedings of the **ASME 2019 Gas Turbine India Conference GTINDIA 2019**, **IIT Madras (Scopus indexed)**.
- 39) Rayapati Subbarao and M. Govardhan, 'Studies on the outline of flow improvement with speed ratio in a counter rotating turbine', GTINDIA2019-2634, Proceedings of the **ASME 2019 Gas Turbine India Conference GTINDIA 2019**, **IIT Madras (Scopus indexed)**.
- 40) Rayapati Subbarao and Nityanando Mahato, 'Computational analysis on the use of various nimonic alloys as gas turbine blade materials', GTINDIA2019-2698, Proceedings of the **ASME 2019 Gas Turbine India Conference GTINDIA 2019**, **IIT Madras (Scopus indexed)**.
- 41) Rayapati Subbarao, 'Flow improvement aspect with stagger angle variation of the subsequent rotor in contra- rotating axial flow turbine', 302, **7th International Conference on Advances in Energy Research, 2019**, **IIT Bombay**.
- 42) Pritam Sadhukhan and Rayapati Subbarao, 'Study of mechanical and tribological properties of hybrid copper metal matrix composite reinforced with graphite and SiC', IMME19-107, International Conference on Recent Trends in Metallurgy, Materials Science and Manufacturing (IMME19), **NIT Trichy**, Trichy, Dec 2019.
- 43) Rayapati Subbarao, 'Gas turbine blade failure scenario due to thermal loads in case of Nickel based super alloys', MATPR-D-20-12315, International Conference on Materials Manufacturing and Modelling (ICMMM - 2021), **VIT University**, Vellore, 2021.
- 44) Geetika K. Salwan, Rayapati Subbarao, Subrata Mondal, 'Comparison and Selection of Suitable Materials Applicable for Gas Turbine Blades', MATPR-D-21-00006, International Conference on Materials Manufacturing and Modelling (ICMMM - 2021), **VIT University**, Vellore, 2021.
- 45) Geetika K. Salwan, Rayapati Subbarao, 'Studies on the selection of cutting parameters of ti-6al-4v alloy turning operation using principal component analysis', MATPR-D-21-02682, International Conference on Materials Manufacturing and Modelling (ICMMM - 2021), **VIT University**, Vellore, 2021.
- 46) Rayapati Subbarao and Hindol Banerjee, 'Computational Investigation of Nickel and Chromium Based Super Alloys as Gas Turbine Blade Materials', Proceedings of the 26th National and 4th International ISHMT-ASTFE Heat and Mass Transfer Conference December 17-20, 2021, **IIT Madras**, 2021.

- 47) Rayapati Subbarao and Nityanando Mahato, 'Simulation studies on the comparison of different superalloys used in different gas turbine blade materials', 98, 2nd International Conference on Materials Science & Engineering, (ICMSE 2022), NIT Jalandhar, 2022.
- 48) Geetika Salwan, Rayapati Subbarao and Subrata Mondal, 'Analysis on the Suitability of Powder Metallurgy Technique for Making Nickel Based Superalloys', 188, 2nd International Conference on Materials Science & Engineering, (ICMSE 2022), NIT Jalandhar, 2022.
- 49) Geetika Salwan, Rayapati Subbarao and Subrata Mondal, 'Experimental Studies on Ti-6Al-4V Alloy for Its Suitability in Gas Turbine Engines', 9th International and 49th National Conference of FMFP (FMFP-2022), **IIT Roorkee**, Dec 2022.
- 50) Rayapati Subbarao 'Studies on the Flow Capture Through Blade Rows in a Two-Stage Axial Flow Turbine', 5395, 9th International and 49th National Conference of FMFP (FMFP-2022), **IIT Roorkee**, Dec 2022.
- 51) Geetika Salwan, Rayapati Subbarao and Subrata Mondal, 'Effect of compaction pressure and sintering time on characteristics of nickel based superalloy', 322, 2nd International conference on "Recent Advances in Materials, Manufacturing and Machine Learning (RAMMML-2023), Nagpur, India, Feb 2023. (**Best Paper Award**)
- 52) Geetika K. Salwan, Rayapati Subbarao, Subrata Mondal, 'Investigation on Compaction Pressure and Sintering Temperature Suitable for Nimonic 90 Superalloy', ICMML2023-00794, International Conference on Materials Manufacturing and Modelling (ICMMM - 2023), **VIT University**, Vellore, 2023.
- 53) Rayapati Subbarao, 'Secondary Flow Scenario in case of a Counter Rotating Turbine with Flow Rate', P- 105, Proceedings of the 15th International Symposium on Experimental Computational Aerothermodynamics of Internal Flows (**ISAIF15**), **IIT Madras**, pp. 243-247, 2023.
- 54) Rayapati Subbarao, 'Shear Strain Rate Aspects in case of flow through a Counter Rotating Turbine', P- 142, Proceedings of the 15th International Symposium on Experimental Computational Aerothermodynamics of Internal Flows (**ISAIF15**), **IIT Madras**, pp. 269-273, 2023.
- 55) Rayapati Subbarao and Sayon Dey 'Scenario of joining various aluminium and its alloys for automobile applications by using FSW method', **89**, 9th International & 30th All India Manufacturing Technology, Design & Research Conference (AIMTDR 2023), **IIT (BHU) Varanasi**, 2023.
- 56) Geetika K. Salwan, Rayapati Subbarao, Subrata Mondal, 'Effect of Heat Treatment on the Properties and Microscopic Characteristics of Different Alloys Used in Gas Turbine Engines', **24**, 9th International & 30th All India Manufacturing Technology, Design & Research Conference (AIMTDR 2023), **IIT (BHU) Varanasi**, 2023.
- 57) Rayapati Subbarao and Debi Prasad Mishra, Analysis on the practical importance of various customs followed in ancient India, 19, International Conference on Bharatiya Traditional Knowledge System (BTKS), **NITTTR Kolkata**, India, **July 2024**.
- 58) Nityanando Mahato and Rayapati Subbarao, 'Static Structural Analysis of Gas Turbine Compressor Stator Blades Made of Different Alloys', 45, International Conference on Mechanical, Aerospace and Metallurgical Engineering (INCOMAME 2024), **NITTTR Kolkata**, Nov 2024.
- 59) Sayon Dey and Rayapati Subbarao, 'Thermal analysis on different Aluminium alloys using friction stir welding', 28, International Conference on Mechanical, Aerospace and Metallurgical Engineering (INCOMAME 2024), **NITTTR Kolkata**, Nov 2024.

NATIONAL CONFERENCE PAPERS:

- 1) Rayapati Subbarao and M.Govardhan, 'Effect of axial gap on the aerodynamics of a one and half stage turbine', **TM-07**, 38th National Conference on Fluid Mechanics and Fluid Power, **FMFP, MANIT Bhopal**, India, 2011.

- 2) Rayapati Subbarao and K.Saisarath, 'Thermodynamic simulation of a gas turbine plant for power generation and heating applications', **T-313**, National Conference on Emerging Trends in Mechanical Engineering, Osmania University, 2014. (ISBN-9789383635559)
- 3) Ashokachary, Rayapati Subbarao and Issac Prasad, 'Experimental studies on control techniques of sudden expansion geometries to improve flow structure', **T-304**, National Conference on Emerging Trends in Mechanical Engineering, Osmania University, 2014. (ISBN-9789383635559)
- 4) Chava Rajesh and Rayapati Subbarao, 'Estimation of wing twist to compensate divergence at high speeds', **D-123**, National Conference on Emerging Trends in Mechanical Engineering, Osmania University, 2014. (ISBN-9789383635559).
- 5) Jijo Mathew and Rayapati Subbarao, 'Study of auto feeder in a ginning machine and usage of ergonomic tools on workers', **P-205**, National Conference on Emerging Trends in Mechanical Engineering, Osmania University, 2014.
- 6) K. Ashokachary and Rayapati Subbarao, 'Improved Flow Structure over Wind Turbine Blade of Aero Foil Cross Section', 195, 44th National Conference on Fluid Mechanics and Fluid Power FMFP 2017, Amrita University, 2017.
- 7) Rayapati Subbarao and Nityanando Mahato, 'Modelling and analysis of gas turbine blades made of nickel-based superalloys', NAPC2018-01, 2nd National Aero Propulsion Conference NAPC-2018, **IIT Kharagpur**, 2018.
- 8) Rayapati Subbarao, 'Application of OBE approach for thermodynamics course in order to improve the overall teaching-learning practice', Proceedings of Engineering Education, pp. 62-29, **NITTTR Kolkata**, India, 2021. **Book chapter -4**
- 9) Rayapati Subbarao, 'Real time analysis of CO and PO attainment and their significance in case of a post graduate engineering program', Proceedings of Engineering Education, pp. 70-76, **NITTTR Kolkata**, India, 2021. **Book chapter -5**
- 10) Rayapati Subbarao, 'Computational Studies on a Two-Stage Axial Flow Turbine Aiming Flow Losses and Performance', 129, **48th National Conference on Fluid Mechanics and Fluid Power (FMFP)**, BITS Pilani, 2021.
- 11) Rayapati Subbarao, 'Computational Studies on the Flow Aspects Through the Nozzle in Case of a Counter Rotating Gas Turbine Stage', 279, **48th National Conference on Fluid Mechanics and Fluid Power (FMFP)**, BITS Pilani, 2021.