

Dr. N. Siva Shanmugam

Department of Mechanical Engineering

National Institute of Technology Tiruchirappalli

Tiruchirappalli – 620 015.

Tamil Nadu, INDIA.

Publications

1. Krishnadasan, C. K., Shanmugam, N. S., Sivasubramonian, B., Rao, B. N., & Suresh, R. (2021). Analytical studies and numerical predictions of stresses in shear joints of layered composite panels for aerospace applications. *Composite Structures*, 255, 112927.
2. Nishanth, S., Prem, S., Prakash, T., Siva, J., Kumar, M. S., & Shanmugam, N. S. (2021). Performance Study of Dissimilar Alloy Joints of SS321 and SS347 Under MIG Welding Process. *Trends in Manufacturing and Engineering Management*, 663-671.
3. A Rajesh Kannan, S Mohan Kumar, R Pramod, N Pravin Kumar, N Siva Shanmugam, Yasam Palguna, Microstructure and mechanical properties of wire arc additive manufactured bi-metallic structure, *Science and Technology of Welding and Joining*, 1-11, 2020 Impact factor – 3.422
4. A Rajesh Kannan, N Siva Shanmugam, G Sreedhar, Studies on corrosion behavior of AISI 316L cold metal transfer weldments in physiological solutions, *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*, 234(6), 644-656, 2020 Impact factor – 1.606
5. A Karpagaraj, N Rajesh Kumar, N Thiyaneshwaran, N Siva Shanmugam, Murali Mohan Cheepu, R Sarala, Experimental and numerical studies on gas tungsten arc welding of Ti–6Al–4V tailor-welded blank, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 42(10), 1-11, 2020 Impact factor – 1.755
6. Pranav Praveen Nikam, D Arun, K Devendranath Ramkumar, N Sivashanmugam, Microstructure characterization and tensile properties of CMT-based wire plus arc additive manufactured ER2594, *Materials Characterization*, 110671, 2020 Impact factor – 3.562

7. N Pravin Kumar, N Siva Shanmugam, Some studies on nickel based Inconel 625 hard overlays on AISI 316L plate by gas metal arc welding based hardfacing process, *Wear*, 456, 203394, 2020 Impact factor – 4.108
8. CK Krishnadasan, N Siva Shanmugam, B Sivasubramonian, B Nageswara Rao, R Suresh, Analytical studies and numerical predictions of stresses in shear joints of layered composite panels for aerospace applications, *Composite Structures*, 112927, 2020 Impact factor – 5.138
9. A Karpagaraj, N Rajesh Kumar, K Sankaranarayananasamy, N Siva Shanmugam, Muralimohan Cheepu, Simulation and Experimental Studies on Arc Efficiency and Mechanical Characterization for GTA-Welded Ti–6Al–4V Sheets, *Arabian Journal for Science and Engineering*, 2020 Impact factor- 1.711
10. R Duraisamy, S Mohan Kumar, A Rajesh Kannan, N Siva Shanmugam, K Sankaranarayananasamy, MR Ramesh, Tribological performance of wire arc additive manufactured 347 austenitic stainless steel under unlubricated conditions at elevated temperatures, *Journal of Manufacturing Processes* 56, 306-321, Impact factor-4.086.
11. R Pramod, S Mohan Kumar, B Girinath, A Rajesh Kannan, N Pravin Kumar, N Siva Shanmugam Fabrication, characterisation, and finite element analysis of cold metal transfer–based wire and arc additive–manufactured aluminium alloy 4043 cylinder, *Welding in the World*, 1-15, Impact factor-1.589.
12. A Rajesh Kannan, S Mohan Kumar, N Pravin Kumar, N Siva Shanmugam, AS Vishnu, Yasam Palguna Process-microstructural features for tailoring fatigue strength of Wire Arc Additive Manufactured Functionally Graded Material of SS904L and Hastelloy C-276 Materials Letters, 127968, Impact factor-3.204.
13. R Pramod, N Siva Shanmugam, CK Krishnadasan, Studies on cold metal transfer welding of aluminium alloy 6061-T6 using ER 404, *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, 2020, Impact factor-1.568.
14. A Rajesh Kannan, N Siva Shanmugam, V Rajkumar, M Vishnukumar, Insight into the microstructural features and corrosion properties of Wire Arc Additive Manufactured Super Duplex Stainless Steel (ER2594), *Materials Letters*, Pages 127680, 2020, Impact factor-3.204.
15. S Mohan Kumar and N Siva Shanmugam, Effect of heat input and weld chemistry on mechanical and microstructural aspects of double side welded austenitic stainless steel

- 321 grade using tungsten inert gas arc welding process, *Material Science & Engineering Technology*, Vol. 51, Issue 3, Pages 349-367, 2020, Impact factor-0.556.
16. B Girinath, N Siva Shanmugam and C Sathiyarayanan, Studies on influence of torch orientation on microstructure, mechanical properties and formability of AA5052 CMT welded blanks, *Archives of Civil and Mechanical Engineering*, Vol. 20, Issue 1, Pages 1-22, 2020, Impact factor-2.846.
17. R Pramod, S Mohan Kumar, N Siva Shanmugam and S Arungalai Vendan, Formability studies on plasma arc welded duplex stainless steel 2205 sheet, *Material Science & Engineering Technology*, Vol. 51, Issue 2, Pages 163-173, 2020, Impact factor-0.556.
18. M Arunkumar, V Dhinakaran and N Siva Shanmugam, Numerical prediction of temperature distribution and residual stresses on plasma arc welded thin titanium sheets, *International Journal of Modelling and Simulation*, 2019.
19. Dhinakaran Veeman, T Sathish, Vijay Petley and Gokulakrishnan Sriram, Experimental Investigation on Plasma Arc Welded Ti64 Sheets, *Transactions of the Canadian Society for Mechanical Engineering*, 2019, Impact factor-0.38.
20. S Mohan Kumar and N Siva Shanmugam, Finite element simulation for tensile and impact test of activated TIG welding of AISI 321 austenitic stainless steel, *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, Vol. 223, Issue 11, Pages 2323-2334, 2019, Impact factor-1.568.
21. R Pramod, CK Krishnadasan, N Siva Shanmugam, Design and finite element analysis of metal-elastomer lined composite over wrapped spherical pressure vessel, *Composite Structures*, Vol. 224, Pages 111028, 2019, Impact factor-4.829.
22. K Parthiban, N Siva Shanmugam, K Sankaranarayanan and S Arungalai Vendan, Studies on spin arc welding process on the behavior of C1018 plates-an insight into mechanical and metallurgical transformation, *Material research express*, Vol. 6 No. 10, 2018, Pages 106540, Impact factor – 1.449.
23. A Rajesh Kannan, N Siva Shanmugam and S Arungalai Vendan, Effect of cold metal transfer process parameters on microstructural evolution and mechanical properties of AISI 316L tailor welded blanks, *The International Journal of Advanced Manufacturing Technology*, Vol. 103 Issue 9-12, Pages 4265-4282, 2019, Impact factor- 2.496.

24. B. Girinath, N. Siva Shanmugam and K. Sankaranarayananasamy, Weld bead graphical prediction of cold metal transfer weldment using ANFIS and MRA model on MATLAB platform, *Simulation: Transactions of the Society for Modeling and Simulation International*, Vol. 95 Issue 8, Pages 725-736, 2019, Impact factor-1.455.
25. R Duraisamy, S Mohan Kumar, A Rajesh Kannan, N Siva Shanmugam and K Sankaranarayananasamy Reliability and sustainability of wire arc additive manufactured plates using ER 347 wire-mechanical and metallurgical perspectives, *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 2019 Impact factor – 1.359.
26. A. Karpagaraj, N. Siva Shanmugam and K. Sankaranarayananasamy Experimental investigations and numerical prediction on the effect of shielding area and post flow time in the GTAW of CP Ti sheets *The International Journal of Advanced Manufacturing Technology*, Vol. 101 Issue 9-12, Pages 2933-2945, 2019, Impact factor- 2.496
27. J. Anthuvan Stephen Edberk and N. Siva Shanmugam Studies on the weld integrity, formability and microstructural evolution of grade 2 titanium sheets of laser beam welding process, *Material research express*, Vol. 6 No. 4, 2019, Pages 046525, Impact factor – 1.449.
28. V Dhinakaran, R Patil, G Sriram and NS Shanmugam, Studies on crack propagation in plasma arc welded Ti-6Al-4V joint during erichsen cupping test, *International Journal of Recent Technology and Engineering*, 2019, Vol.8, Issue 1, Pages 79-83, 2019.
29. Muthusamy Arunkumar, Veeman Dhinakaran, Nallathambhi Sivashanmugam and Vijay Petley, Effect of Plasma Arc Welding on Residual Stress and Distortion of Thin Titanium Sheet, *Materials Research*, Vol. 22, Issue 6, 2019.
30. A Rajesh Kannan, N Siva Shanmugam and S Naveenkumar, Effect of Arc Length Correction on Weld Bead Geometry and Mechanical Properties of AISI 316L Weldments by Cold Metal Transfer (CMT) Process, *Materials Today: Proceedings*, Vol. 18, Pages 3916-3921, 2019.
31. Bheemappa Suresha, SG Channabasavanna and N Siva Shanmugam, Microstructure and Abrasive Wear Behaviour of Nickel Based Hardfacing Stainless Steel Deposited by Gas Metal Arc Welding, *Applied Mechanics and Materials*, Vol. 895, Pages 278-283, 2019.

32. B Girinath, N Siva Shanmugam and K Sankaranarayanassamy, Investigation on the Effect of Torch Angle on the Formability of AA5052 CMT Weldments, Transactions of the Indian Institute of Metals, Pages 1551–1555, 2019 Impact factor – 1.176.
33. K Parthiban, N Siva Shanmugam and K Sankaranarayanassamy, Experimental and numerical investigation of charpy impact test of spin arc welded C1018 plates, IOP Conference Series: Materials Science and Engineering, Vol. 455, No. 1, 2018, Pages 012069.
34. J Anthuvan Stephen Edberk, N Siva Shanmugam and K Sankaranarayanassamy, Design and fabrication of special fixture for different weld configurations of commercial pure Titanium sheet in laser beam welding process, IOP Conference Series: Materials Science and Engineering, Vol. 455 No. 1, 2018, Pages 012075.
35. S. Mohan Kumar and N. Siva Shanmugam Studies on the weldability, mechanical properties and microstructural characterization of activated flux TIG welding of AISI 321 austenitic stainless steel, Material research express, Vol. 5 No. 10, 2018, Pages 106524 Impact factor – 1.449.
36. Chidambaram Mani, Krishnasamy Sankaranarayanassamy and Nallathambi Sivashanmugam, Evaluating the effects of different types of hand gloves and handle grip materials on hand-arm response while operating hand grinding machines, Journal of Industrial Safety Engineering, Vol. 4, Issue 3, Pages 10-23, 2018.
37. Chaitanya Gandhi, Nikhil Dixit, Omkar Aranke, M Arivarasu, N Siva Shanmugam, M Manikandan and N Arivazhagan Characterization of AA7075 Weldment using CMT Process, Materials Today Proceedings, Volume 5, Issue 11, Part 3, 2018, Pages 24024-24032
38. N. Siva Shanmugam, J. Anthuvan Stephen Edberk and K. Sankaranarayanassamy Some Studies on mechanical characterization of laser welded thin Ti-6Al-4V sheets, High Temperature materials and processes – Accepted for publication Impact factor – 0.433
39. K Devendranath Ramkumar, Vinayak Varma, Madhukar Prasad, N Deva Rajan, N Siva Shanmugam, Effect of activated flux on penetration depth, microstructure and mechanical properties of Ti-6Al-4V TIG welds, Journal of Materials Processing Technology, Vol. 261, 233-241, 2018 Impact Factor - 3.647
40. N Pavan Kumar, Praveen K Devarajan, S Arungalai Vendan and N Shanmugam, Prediction of bead geometry in cold metal transfer welding using back propagation

neural network, The International Journal of Advanced Manufacturing Technology, Vol. 93 Issue 1-4, Pages 385-392, 2017, Impact factor- 2.496.

41. P Subramani, Sanket Shetty, R Anirudhapandit, PR Hari, K Gokul Kumar, M Manikandan, N Arivazhagan, N Siva Shanmugam Investigations on the Microstructure, Microsegregation and Hardness Properties of Bead on Plasma Arc Welded C-276 Alloy Materials Today: Proceedings, Vol 5, Issue 5, pp. 13628-13636
42. V Dhinakaran, N Siva Shanmugam, K Sankaranarayanan and R Rahul, Analytical and numerical investigations of weld bead shape in plasma arc welding of thin Ti-6Al-4V sheets, Simulation: Transactions of the Society for Modeling and Simulation International, Impact factor - 0.940
43. R. Selva Bharathi, N. Siva Shanmugam, R. Murali Kannan and S. Arungalai Vendan, Studies on the Parametric Effects of Plasma Arc Welding of 2205 Duplex Stainless Steel, High Temperature Materials and Processes, Impact factor - 0.433
44. V Dhinakaran, N Siva Shanmugam and K Sankaranarayanan, Experimental investigation and numerical simulation of weld bead geometry and temperature distribution during plasma arc welding of thin Ti-6Al-4V sheets, The Journal of Strain Analysis for Engineering Design, Vol. 52 Issue 1, 2017, pp. 30-44 Impact Factor – 1.250
45. A. Karpagaraj, N. Siva Shanmugam and K. Sankaranarayanan, Studies on mechanical behavior and microstructural analysis of tailor welded blanks of Ti-6Al-4V titanium alloy sheet, Journal of Materials Research, Vol. 34 Issue 11, 2016, pp. 2186-2196 Impact Factor – 1.673
46. Nalajam Pavan Kumar, S Arungalai Vendan and N Siva Shanmugam, Investigations on the parametric effects of cold metal transfer process on the microstructural aspects in AA6061, Journal of Alloys and Compounds, Vol. 658, 2016, pp. 255-264 Impact Factor – 3.133
47. K. Devendranath Ramkumar, Debidutta Mishra, B. Ganesh Raj, M.K. Vignesh, G. Thiruvengatam, S.P. Sudharshan, N. Arivazhagan, N. Sivashanmugam and Arul Maximus Rabel, Effect of optimal weld parameters in the microstructure and mechanical properties of autogeneous gas tungsten arc weldments of super-duplex stainless steel UNS S32750, Materials & Design (1980-2015), Vol. 66, Part A, 2015, pp. 356-365 Impact Factor – 4.364
48. K Devendranath Ramkumar, Jelli Lakshmi Narasimha Varma, Gangineni Chaitanya, S Logesh, Madhav Krishnan, N Arivazhagan and N Siva Shanmugam, Experimental

investigations on the SiO₂ flux-assisted GTA welding of super-austenitic stainless steels, The International Journal of Advanced Manufacturing Technology, DOI: 10.1007/s00170-015-7876-6 Impact Factor – 2.209

49. V Dhinakaran, N Siva Shanmugam and K Sankaranarayananasamy, Some studies on temperature field during plasma arc welding of thin titanium alloy sheets using parabolic Gaussian heat source model, Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, Impact Factor – 1.015
50. A. Karpagaraj, N. Siva Shanmugam and K. Sankaranarayananasamy, Some studies on mechanical properties and microstructural characterization of automated TIG welding of thin commercially pure titanium sheets, Materials Science and Engineering: A, Vol. 640, 2015, pp. 180-189 Impact Factor – 3.094
51. K. Devendranath Ramkumar, Jagat Sai, Sridhar Gundla, Santhosh Reddy, P. Prabakaran, N. Arivazhagan and N. Siva Shanmugam, Influence of filler metals in the control of deleterious phases during the multi-pass welding of Inconel 718 plates, Acta Metallurgica Sinica (English Letters), Volume 28, Issue 2, 2015, pp. 196-207 Impact Factor – 1.292
52. Vijaikrishnan V, Ramakrishnan M and N. Siva Shanmugam, Steady state analysis of regular hollow pyramidal radiating fin with triangular cross-section, Thermal Science, Volume 19, Issue 1, 2015, Pages: 59-68 Impact Factor: 0.962
53. N. Siva Shanmugam, G. Buvashekar and K. Sankaranarayananasamy, Experimental Investigation and Finite Element Simulation of laser lap welding of SS304 sheets, International Journal of Mechanics, Issue 2, Volume 7, 2013, Pages: 120-127.
54. N. Siva Shanmugam, G. Buvashekar and K. Sankaranarayananasamy, Some studies on weld bead geometries for laser spot welding process using finite element analysis, Materials & Design, Volume 34, February 2012, Pages 412-426. Impact Factor: 4.364
55. Jaganathan Maniraj, Velappan Selladurai, Nallathambhi Sivashanmugam, Subbiah Arungalai Vendan, Jacob Mathew, Experimental Investigation on Effect of Tool Crater Wear and Surface Roughness in TiN Coated WC Tool While Machining Martensitic Stainless Steel, High Temperature Materials and Processes, Volume: 30, Issue: 3, 2011, Pages: 257-265. Impact Factor: 0.312
56. Jaganathan Maniraj, Velappan Selladurai, Nallathambhi Sivashanmugam, Subbiah Arungalai Vendan, Mayilswamy, Hard Finish Turning Parameters Optimization for Machining of High Temperature Stainless Steel, High Temperature Materials and Processes, DOI: 10.1515/htmp-2011-0142, June 2012. Impact Factor: 0.312

57. N. Siva Shanmugam, G. Buvashekar, K. Sankaranarayanan & S. Ramesh Kumar, A transient finite element simulation of the temperature and bead profiles of T-joint laser welds, *Materials & Design*, Volume 31, Issue 9, 2010, pp. 4528-4542. Impact Factor: 4.364
58. N. Siva Shanmugam, G. Buvashekar & K. Sankaranarayanan, Experimental Investigation and Finite Element Simulation of Laser Beam Welding of AISI 304 Stainless Steel sheet, *Journal of Experimental Techniques*, Volume 34, Issue 5, 2010, pp. 25-36. Impact Factor: 0.545
59. N. Siva Shanmugam, G. Buvashekar, K. Sankaranarayanan & K. Manonmani, Some Studies on temperature profiles in AISI 304 stainless steel sheet during laser beam welding using FE simulation, *International Journal of Advanced Manufacturing Technology*, Volume 43, Numbers 1-2 / July, 2009, pp. 78-94. Impact Factor: 2.209
60. G. Buvashekar, N. Siva Shanmugam, K. Sankaranarayanan & R. Sabarikanth, A Study on Laser Welding Modes with varying Beam Energy Levels, *Proceedings of the Institution of Mechanical Engineers, Part C, Journal of Mechanical Engineering Science*, Volume 223, Number 5 / 2009, pp. 1141-1156. Impact Factor: 1.015
61. J. Jaise, N. B. Ajay Kumar, N. Siva Shanmugam, K. Sankaranarayanan & T. Ramesh, Power system: a reliability assessment using FTA, *International Journal of System Assurance Engineering and Management*, , Volume 4, Issue 1, March 2013, pp. 78–85
62. Georgekutty S. Mangalathu, N. Siva Shanmugam, K. Sankaranarayanan, T. Ramesh & K. Muthukumar, System Safety in LPG Fired Furnace – A Multi Criteria Decision Making Technique, *Advances in Production Engineering & Management Journal*, Volume 7, Number 2, 2012, pp. 123 – 134. Impact Factor: 1.424
63. Georgekutty S Mangalathu, N. Siva Shanmugam, K. Sankaranarayanan & T. Ramesh, Decision Making in Risk Assessment of Producer Gas Furnaces: An Integrated Approach with AHP & Promethee Techniques, *Journal Manufacturing Engineering*, Volume 10, Number 1, 2011, pp. 49-54.
64. N. Siva Shanmugam, G. Buvashekar, K. Sankaranarayanan & K. Manonmani, Influence of Beam Incidence Angle in Laser Welding of Austenitic Stainless Steel Using Finite Element Analysis, *Journal of Multidiscipline Modeling in Materials and Structures*, Volume 5, Number 3, 2009, pp. 257-262 (6).

65. K.R. Balasubramanian, N. Siva Shanmugam, G. Buvanashakaran & K. Sankaranarayanan, Numerical and experimental investigation of laser beam welding of AISI 304 stainless steel sheet, *Advances in Production Engineering & Management Journal*, Volume 3, Number 2, 2008, pp. 93 – 105. Impact Factor: 1.424
66. P. Sathiya, N. Siva Shanmugam, T. Ramesh & R. Murugavel Temperature distribution modeling of Friction Stir Spot Welding of AA 6061-T6 using Finite Element Technique, *Journal of Multidiscipline Modeling in Materials and Structures (MMMS)*, Volume 4, Number 1, 2008, pp. 1-14.
67. P. Sathiya, N. Siva Shanmugam, S. Aravindan & A. Noorul Haq, Modeling and Simulation of Submerged Arc Welding in Pipe Manufacturing process using Finite Element Analysis, *IWS Journal, Weld 3, Bead 2*, March 2006, pp. 17-25 (9).
68. P. Sathiya, N. Siva Shanmugam & T. Ramesh, Orthogonal Metal Cutting of SA105 Carbon Steel - A Feasibility Study, *Journal of Manufacturing Technology & Management*, Volume 1, Number 1, Apr- June2007, pp. 61-68.