

RESEARCH PUBLICATIONS

I. Refereed International Journal:

1. R. Ravivarman, **R. Prabhu Sekar**, “Estimation of loss factor based on the load share model in improved bending strength spur gear drive system”, *Journal of Engineering Tribology; IMechE Part J*, vol. 235 (2020), pp. 33-45.
2. **R.Prabhu Sekar**, “A comparative study of tooth wear, mechanical power losses and efficiency in normal and high contact ratio asymmetric spur gears”, *Journal of Solid Mechanics*, vol. 12 (2020), pp. 148 – 164.
3. **R. Prabhu Sekar** , “Determination of Load depended gear loss factor on asymmetric spur gear”, *Mechanism and Machine Theory, Elsevier* vol. 135, (2019), pp. 322-335.
4. **R.Prabhu Sekar** “Performance enhancement of spur gear formed through asymmetric tooth”, *Journal of Engineering Tribology, Part J, IMechE*, vol. 233(9) (2019), pp.1361-1378.
5. **R.Prabhu Sekar** and Ravivarman. R, “Influence of addendum modification factor on root stresses in normal contact ratio asymmetric spur gears”, *Journal of Solid Mechanics* vol. 11(1) (2019), pp.210-221.
6. R. Ravivarman, K. Palaniradja, **R. Prabhu Sekar**, “Performance enhancement of normal contact ratio gearing system through correction factor”, *Journal of Mechanical Engineering and Sciences* vol. 13 (3) (2019), pp.5242-5258
7. Ravivarman R, Palaniradja K and **Prabhu Sekar R**, “Evolution of balanced root stress and tribological properties in high contact ratio spur gear drive”, *Mechanism and Machine Theory, Elsevier*, vol. 126, (2018), pp. 491-513.
8. Ravivarman, Palaniradja and **Prabhu Sekar.R**, “Influence of gear ratio on wear depth of nonstandard HCR spur gear drive with balanced fillet stress, *Materials Today Proceedings, Elsevier*, vol. 5 (2018), pp.17350-17359.
9. Ravivarman, Palaniradja and **Prabhu Sekar.R**, “Gear loss factor using load distribution model for varying contact ratio in spur gear drive for improved bending strength”, *Material science and Engineering*, vol. 624, (2019), pp. 1-7.
10. **R.Prabhu Sekar** and Sathishkumar. R, “Enhancement of Wear Resistance on Normal Contact Ratio Spur Gear Pairs through Non-Standard Gears”, *Wear – Elsevier*, Vol. 380-381, (2017), pp. 228-239.

11. **R.Prabhu Sekar**, Edvin Geo.V and Leenus Jesu Martin, "A Mixed Finite Element and analytical method to predict load, mechanical power loss and improved efficiency in non-standard spur gear drives", *Journal of Engineering Tribology, Part J, IMECHE Vol. 231,(2017)*, pp. 1408-1424.
12. **R.Prabhu Sekar** and G.Muthuveerappan, "Estimation of tooth form factor for normal contact ratio asymmetric spur gears", *Mechanism and Machine Theory, Elsevier, vol. 90, (2015)*, pp. 187-218.
13. **R.Prabhu Sekar** and G.Muthuveerappan, "Load sharing based maximum fillet stress analysis of Asymmetric helical gears designed through direct design – a parametric study", *Mechanism and Machine Theory, Elsevier, vol. 80, (2014)*, pp. 84-102.
14. **R.Prabhu Sekar** and G.Muthuveerappan, "A Balanced Maximum Fillet Stresses on Normal Contact Ratio Spur Gears to Improve the Load Carrying Capacity through Non-Standard Gears", *Mechanics based design of structure and machines, Taylor and Francis, vol. 43, (2014)*, pp. 150-163.
15. **R.Prabhu Sekar** and G.Muthuveerappan, "Load sharing based fillet stress analysis of involute helical gears", *Applied Mechanics and Materials, Trans Tech, vol. 465, (2014)*, pp. 1234-1238.
16. **R.Prabhu Sekar** and G.Muthuveerappan, "Estimation of tooth form factor and stress correction factor for non-standard symmetric spur gears", *IJEST, vol. 9(2017)*, pp. 17-24.
17. R. Sathishkumar, **R.Prabhu Sekar** and A. Arulmurug, "Estimation of wear depth on normal contact ratio spur gear", *Middle East Journal of Scientific Research, vol. 24 (2016)*, pp. 38-42.
18. R.Prabhu Sekar and G.Muthuveerappan, "Effect of backup ratio and cutter tip radius on uniform bending strength design of spur gears", *Procedia Material Science Elsevier, vol. 5, (2014)*, pp. 1640-1649.
19. R.Prabhu Sekar and G.Muthuveerappan, "Effect of face contact ratio on load sharing based fillet stress in asymmetric helical gear drives", *Universal Journal of Mechanical Engineering, Horizon, vol. 2, (2014)*, pp. 137-141.

International Conference:

1. **R. Prabhu Sekar**, R. Ravivarman and Gadi Anil, "Effect of Balanced sliding velocity and slide to roll ratio on surface wear in symmetric profile modified high contact ratio spur gears", 5th International and 20th National Conference on Machines and Mechanisms, December 9-11, 2021, IITDM Jabalpur .
2. Ravivarman, **R.Prabhu Sekar**, Prediction of gear loss factor for high contact ratio spur gear drive with optimised root stress, 1st International conference on Future Technologies in Manufacturing, Automation, Design and Energy, December 28-30, 2020, **NIT Puducherry**.
3. Ravivarman, Palaniradja and Prabhu Sekar, Gear loss factor using load distribution model for varying contact ratio in spur gear drive for improved bending strength. **International Conference on Power Transmission, July 14-16, 2019**, IIT Madras, Tamil Nadu.
4. Ravivarman, Palaniradja and Prabhu Sekar, Teeth Wear enhancement along the Tooth Profile of Spur Gear Drive by Balancing the Fillet Stress through Positive Correction Factor, *7th International & 28th All India Manufacturing Technology, Design and Research (AIMTDR) Conference 2018, December 13th-15th, 2018, College of Engineering, Anna University, Chennai, India.*
5. Ravivarman, Palaniradja and Prabhu Sekar, Influence of Gear Ratio on Wear Depth of Nonstandard HCR Spur Gear Drive with Balanced Fillet Stress. **International Conference on Advanced Materials and Processes: Challenges and Opportunities (AMPCO-2017), November 30 – December 02, 2017**, IIT Roorkee, Uttarakhand, India.
6. Ravivarman, Palaniradja and Prabhu Sekar, Effect of module on wear resistance of high contact ratio spur gears through optimized fillet stress. **International Conference on Theoretical, Applied, Computational and Experimental Mechanics, December 28-30, 2017**, IIT Kharagpur, India.
7. Ravivarman, Palaniradja and Prabhu Sekar, A Comparative Study On Wear Depth Between NCR And HCR Spur Gear Drive For Balanced Fillet Stress. **1st International Conference on Mechanical Engineering, January 4 – 6, 2018**, Jadavpur University, Kolkata, India.
8. R.Prabhu Sekar and S.Gowri, "Development of flexible finger joint implant", **National conference on A Confluence of Design and Manufacturing Engineers, (ACDME-2009)** April -11, GKM College of Engineering, Chennai.
9. R.Prabhu Sekar, G.Muthuveerappan, "Load Sharing Based Fillet Stress Analysis of Helical Gears with Higher Pressure Angle and Backup Ratio", **3rd International Conference on Material for the Future - Innovative materials, Process, Products and Applications (ICMF - 2013)**, Nov 6-8, Govt. Engineering College, Thrissur, Kerala.

10. R.Prabhu Sekar, G.Muthuveerappan, "Load sharing based fillet stress analysis of involute helical gears", **4th International Conference on Mechanical and Manufacturing Engineering 2013 (ICME 2013)**, Dec 17-18, *Universiti Tun Hussein Onn Malaysia*.
11. R.Prabhu Sekar, G.Muthuveerappan, "Load Sharing Based Fillet Stress Analysis of Symmetric and Asymmetric Helical Gears Designed through Direct Design", **International Conference on Computer Aided Engineering (CAE 2013)**, Dec 19-21, *IIT Madras*.
12. R.Prabhu Sekar, G.Muthuveerappan, "Effect of Face Contact Ratio on Load Sharing Based Fillet Stress in Asymmetric Helical Gear Drives", **1st International Conference on Mechanical Engineering: Emerging Trends for Sustainability (IC MEETS 2014)**, Jan 29-31, *MANIT Bhopal*.
13. R.Prabhu Sekar, G.Muthuveerappan, "Effect of backup ratio and cutter tip radius on uniform bending strength design of spur gears", **International Conference on Advances in Manufacturing and Materials Engineering (AMME 2014)**, March 27-29, *NIT Surathkal*.
14. Satheesh kumar, R.Prabhu Sekar, Arul murugu "Estimation of wear depth on Normal contact ratio spur gear", **International Conference on Recent trends in Engineering and Technology 2016**, April 28-29, *St. Joseph's college of Engineering, Chennai*.
15. R.Prabhu Sekar, Balachandar, "Determination of wear on non-standard symmetric spur gear", **National conference on Advances in Mechanical Engineering 2016**, April -29, *SRM University Chennai*.
16. R.Prabhu Sekar, G.Muthuveerappan, "Estimation of tooth form factor and stress correction factor for non-standard symmetric spur gears", **International conference on Design and Manufacturing -2016**, Dec- 16-17, *ICONDM2016, IITDM, Chennai*.

Books Chapters

S.No	Title	Author's Name	Publisher	Year
1.	Teeth Wear Enhancement	Ravivarman, Palaniradja,	Lecture Notes on Multidisciplinary	2020

	Along the Tooth Profile of Spur Gear Drive by Balancing the Fillet Stress Through Positive Correction Factor	Prabhu Sekar	Industrial Engineering Book series SPRINGER Advances in Simulation, Product Design and Development.	pp. 459-468 Chapter : 37 ISSN: 2522-5022 ISBN 13-978-981-32-9487-5 https://doi.org/10.1007/978-981-32-9487-5_37
2.	Effect of Module on Wear Reduction in High Contact Ratio Spur Gears Drive Through Optimized Fillet Stress	Ravivarman, Palaniradja, Prabhu Sekar	Lecture Notes in Mechanical Engineering SPRINGER Recent Advances in Theoretical, Applied, Computational and Experimental Mechanics	2020 ISBN 978-981-15-1189-9 https://doi.org/10.1007/978-981-15-1189-9_20 Chapter -20 Page : 239-250