

**Autorul tezei de abilitare:** Velicu Radu-Gabriel

**Titlul tezei de abilitare:**

SISTEME MECANICE. PROIECTARE ó CERCETARE ORIENTATE SPRE 20-20-20

**Domeniul:** Inginerie mecanic

## LISTA DE LUCRĂRI

### LUCRĂRI RELEVANTE

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1. **Velicu, R.**, Saulescu, R., Jurj, L. Contact point of bush-sprocket tooth depending on pitch differences of bush chain transmissions. 7th International Conference on Advanced Concepts in Mechanical Engineering IOP Publishing IOP Conf. Series: Materials Science and Engineering 147, 2016
2. **Velicu, R.**, Late , M. Time depending friction in bearing mountings, Revista: Applied Mechanics and Materials, vol. 823, Current Solutions in Mechanical Engineering (ICOME 2015), Trans Tech Publications Ltd. Switzerland, p. 79-84, ISSN:1662-7482, 2016
3. **Velicu, R.**, Popa, S. Experimental study of bearing boxes friction depending on load speed and oil temperature, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Volume XXV, (XV) Oradea, 2016, p. 5-8, ISSN 158360691(e)
4. **Velicu, R.**, Late , M. On the Measurement Procedure for Testing Friction in Bearing Mountings, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Volume XXIV, (XIV) Oradea, 2015
5. **Velicu, R.** Coaxial speed multipliers for wind turbines. Revista: Annals Of The Oradea University. Fascicle Of Management And Technological Engineering; p. 440-442, ISSN: 158360691(e) 2013
6. **Velicu, R.**, Moldovean, G., Lates, M., Gavrilă, C. The experience of Transilvania University of Bra ov in the design of PV tracking systems revista: TEHNOLOGIA INOVATIV ó Revista șConstruc ia de ma iniö nr. 2/2011, p. 28-34 ISSN: 057367419, 2011
7. **Velicu, R.**, Dual axes PV tracking system with rotational and linear actuator Annals of the Oradea University 2011, Fascicle of Management and Technological Engineering, vol X(XX), nr. 1, 2011, p. 3.115-3.120, ISSN 158360691(e)
8. **Velicu, R.**, Vi a, I., Moldovean, G., Butuc, B. Profile Shift Coefficients and Thickness Modification Coefficients for Straight Bevel Gears under Static Tooth Root Stress used on PV Tracking Systems. 13th World Congress in Mechanism and Machine Science (IFTóMM), Guanajuato, México, 19-25 June, 2011, ISBN 978-607-441-131-7
9. **Velicu, R.**, Moldovean, G., Scaletchi, I., Butuc, B. Wind loads on an azimuthal photovoltaic platform. Experimental study. International Conference on Renewable Energies and Power Quality (ICREPPQ10), 2010 ISSN:2172-038X
10. **Velicu, R.**, Bozan, C. Gear ratios of planetary double stepmultipliers for wind turbines from minimum volume criterion. Machine Design 2010, p. 137-140, 2010, ISSN 1821-1259

### TEZA DE DOCTORAT

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Cercet ri asupra transmisiilor planetare de putere. Universitatea Transilvania din Bra ov, 1999.  
Conduc tor tiin ific: Prof.dr.ing. Aurel JULA.

**BREVETE**

1. Butuc B., **Velicu R.**, Moldovean G. Sistem de orientare după două axe cu un singur motor, RO 126150 B1, 2012
2. Visa I., Ciobanu D., Diaconescu D., **Velicu R.** Reductor cu came cardioide, RO125178-B1, 2014
3. Visa I., Dușcapr A., Diaconescu D., Velicescu M., Hermenean I., **Săulescu R., Velicu R.**, Țoțu I., Mecanism de orientare A/00676/29.07.2010, brevet nr. RO126334-B1

**CĂRȚI / CAPITOLE DE CĂRȚI**

1. Jula, A., ...**Velicu, R.** .a. Organe de mașini. Îndrumar de laborator. Universitatea "Transilvania" din Brașov, 1992.
2. Moldovean, Gh.,...**Velicu, R.** .a. Proiectarea arborilor drepți din transmisiile mecanice. Universitatea "Transilvania" din Brașov, 1995.
3. Chișu, E., Moldovean, Gh., Velicu, D., Mogan, Gh., Jula, A., Florea, V., Eftimie, E., **Velicu, R.**, Stroe, I. Cuplaje mecanice intermitente. Editura Lux Libris, Brașov, 1998. ISBN 973-9240-58-5.
4. Moldovean, Gh., Chișu, E., Jula, A., **Velicu, R.**, Visa, I., Eftimie, E., Velicu, D., Oprean, D., Vântu, M. Calculul și proiectarea formei arborilor drepți. Editura Lux Libris, Brașov, 1998. ISBN 973-9240-56-9.
5. Chișu, E., Moldovean, Gh., Velicu, D., Mogan, Gh., Jula, A., Florea, V., Eftimie, E., **Velicu, R.**, Stroe, I., Lateș, M. Cuplaje mecanice intermitente și cu contacte mobile. Editura Lux Libris, Brașov, 1999. ISBN 973-9428-19-0.
6. **Velicu, R.** Organe de mașini. Elemente de asamblare. Cuplaje. Universitatea Transilvania din Brașov, 2000.
7. Jula, A, Chișu, E., Moldovean, Gh., Velicu, D, Șvescu, D., Eftimie, E., **Velicu, R.**, Oprean, D., Pozna, C., Lateș, M. Mecanisme curb-piuli. Îndrumar de proiectare. Editura Lux Libris, Brașov, 2000.
8. Moldovean, Gh., Velicu, D., **Velicu, R.**, Jula, A., Chișu, E., Visa, I., Huidan, L., Gavril, C.C. Angrenaje cilindrice și conice. Teorie și construcție. Editura Lux Libris, Brașov, 2001. ISBN 973-9124-110-7.
9. Moldovean, Gh., Velicu, D., Chișu, E., **Velicu, R.**, Jula, A., Visa, I., Gavril, C.C. Angrenaje cilindrice și conice. Metodici de proiectare. Editura Lux Libris, Brașov, 2002. ISBN 973-9124-142-7.
10. **Velicu, R.**, Moldovean, Gh. Angrenaje cilindrice. Reductoare cilindrice. Editura Universității "Transilvania" din Brașov, 2002. ISBN 973-635-115-7.
11. **Velicu, R.** Organe de mașini. Editura Universității "Transilvania" din Brașov, 2003. ISBN 973-635-127-0.
12. Velicu, D., Moldovean, Gh., **Velicu, R.** Proiectarea angrenajelor conice și hipoide Editura:Universității Transilvania ISBN973-635-371-0, 2004
13. Velicu, D., Moldovean, Gh., **Velicu, R.**, Gavril, C.C. Angrenaje hipoide. Calcul geometric și de rezistență Editura:Lux Libris ISBN 973-635-866-6, 2007.

14. **Velicu, R.**, Butuc, B., Moldovean, G. Load Cases Evaluation for a Gear Based Azimuthal Photovoltaic Tracker under Wind and Weight Action, Renewable Energy vol. II, 1st Edition, p. 134-149, Cambridge Scholars Publishing, ISBN: 978-1-4438-8803-5

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#### ARTICOLE ÎN REVISTE

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1. **Velicu, R.**, Saulescu, R., Jurj, L. Contact point of bush-sprocket tooth depending on pitch differences of bush chain transmissions. 7th International Conference on Advanced Concepts in Mechanical Engineering IOP Publishing IOP Conf. Series: Materials Science and Engineering 147, 2016
2. **Velicu, R.**, Bobancu, S., Popa, S. Geometry and kinematics of the plate on disk contact type influencing friction measurements on UMT tribometer. 7th International Conference on Advanced Concepts in Mechanical Engineering IOP Publishing IOP Conf. Series: Materials Science and Engineering 147, 2016
3. Late , M., **Velicu, R.**, Papuc, R. Sliding friction study of the oscillating translational motion for steel on PA66 and PA46 type materials. 7th International Conference on Advanced Concepts in Mechanical Engineering IOP Publishing IOP Conf. Series: Materials Science and Engineering 147, 2016
4. **Velicu, R.**, Late , M. Time depending friction in bearing mountings, Revista: Applied Mechanics and Materials, vol. 823, Current Solutions in Mechanical Engineering (ICOME 2015), Trans Tech Publications Ltd. Switzerland, p. 79-84, ISSN:1662-7482, 2016
5. Gavril , C.C., **Velicu, R.**, Virtual Modeling, Detail Design and FEM Analysis for a Testing Device, Revista: Applied Mechanics and Materials, vol. 823, Current Solutions in Mechanical Engineering (ICOME 2015), Trans Tech Publications Ltd. Switzerland, p. 3-8, ISSN:1662-7482, 2016
6. **Velicu, R.**, Popa, S. Experimental study of bearing boxes friction depending on load speed and oil temperature, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Volume XXV, (XV) Oradea, 2016, p. 5-8, ISSN 158360691(e)
7. **Velicu, R.**, Jurj, L. Short plane bearings lubrication applied on chain joints, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Volume XXV, (XV) Oradea, 2016, p. 19-22, ISSN 158360691(e)
8. Late , M., **Velicu, R.** CFD Analysis of a VAWT vertical axis wind turbine Revista: Academic Journal of Science, vol.4, nr.3, p. 85-91 ISSN: 2165-6282, 2015
9. **Velicu, R.**, Late , M. On the Measurement Procedure for Testing Friction in Bearing Mountings, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Volume XXIV, (XIV) Oradea, 2015
10. Late , M. T., **Velicu, R.**, Papuc, R. Multiscale modelling of chain-guide contact by using tests and FEM. 11th World Congress on Computational Mechanics, WCCM 2014, 5th European Conference on Computational Mechanics, ECCM 2014 and 6th European Conference on Computational Fluid Dynamics, ECFD 2014, 2014, p.1062-1069, ISBN 978-84-942844-7-2
11. Papuc, R., **Velicu, R.**, Late , M., Jaliu, C. Geometrico-Static Modeling and Simulation of the Contact between Chain and Guide of a Reference Transmission Revista: Applied Mechanics and Materials, 658 ISSN:1662-7482, pp. 111-116, 2014
12. Todi-Eftimie A., **Velicu, R.**, Brands, C., Schlerege, F., Lates, M. T. Friction in bearings of parallel axes transmission Revista: Applied Mechanics and Materials 658, ISSN:1662-7482, pp. 371-374, 2014

13. Late , M. T., **Velicu, R.**, Papuc, R. Testing and FEA as prediction strategies on the ball bearings behaviour. International Journal of Surface Science and Engineering, vol.8, no.4, 2014, p.345-355, ISSN 1749-7868
14. **Velicu. R.**, Late , M. T. Torques on Rotational Axes of PV Azimuthal Sun Tracking Systems Revista Sustainable Energy in the Built Environment - Steps Towards nZEB, Springer Proceedings in Energy, , ISSN 2352-2534, 2014
15. **Velicu, R.**, Late , M. Wind load cases in the design of the platform of an azimuthal tracker Revista: Annals Of The Oradea University. Fascicle Of Management And Technological Engineering
16. Papuc, R., **Velicu, R.**, Late , M. Study of the contacts between toothed chains and guides. Revista: Mechanisms and Machine Science. The 11th IFToMM International Symposium on Science of Mechanisms and Machines, Springer International Publishing House, vol.8, p.425-432, ISSN 2211-0984, 2013
17. Todi-Eftimie A.L., **Velicu R.**, Saulescu R., Jaliu C. Geometric modelling of power joints from bush chain drives", Revista:Mechanisms and Machine Science. The 11th IFToMM International Symposium on Science of Mechanisms and Machines, Springer International Publishing House, vol.8, p. 471-479, ISSN 2211-0984, 2013
18. Todi-Eftimie A.L., **Velicu R.**, Saulescu R., Jaliu C. Bearing Friction vs. Chain Friction for Chain Drives. Revista Advanced Materials Research, Vol.753-755, ICAEMT Conference, pp.1110-1113, ISSN: 1022-6680, 2013
19. **Velicu, R.** Coaxial speed multipliers for wind turbines. Revista: Annals Of The Oradea University. Fascicle Of Management And Technological Engineering; p. 440-442, ISSN: 158360691(e) 2013
20. Papuc, R., **Velicu, R.** Tribological study of guide-chain contact Revista: Annals Of The Oradea University. Fascicle Of Management And Technological Engineering; p. 257-260, ISSN: 158360691(e) 2013
21. **Velicu, R.** Design methodology for a planetary multiplicator with synchronous belts or chains In Annals of the Oradea University 2012, Fascicle of Management and Technological Engineering, vol XI(XXI) 2012, nr. 2, p. 2.122-2.127, ISSN 158360691(e)
22. **Velicu, R.**, Lates, M.T., Papuc, R. Friction test ball on flat during running-in period on UMT tribometer In Annals of the Oradea University 2012, Fascicle of Management and Technological Engineering, vol XI(XXI) 2012, nr. 1, p. 2.142-2.147, ISSN 158360691(e)
23. Jaliu, C., **Velicu, R.**, Papuc, R. Tensioning and guide systems used in chain drives In Annals of the Oradea University 2012, Fascicle of Management and Technological Engineering, vol XI(XXI) 2012, nr. 2, p. 2.17-2.22, ISSN 158360691(e)
24. Moldovean, G., Butuc, B., **Velicu, R.** Shafts Design of a Gear based Azimuthal Tracked Photovoltaic Platform Revista: Environmental Engineering and Management Journal Vol.10, No. 9, p. 1291-1298 ISSN:1582-9596, 2011
25. **Velicu, R.**, Moldovean, G., Lates, M., Gavrilă, C. The experience of Transilvania University of Braşov in the design of PV tracking systems revista: TEHNOLOGIA INOVATIV ó Revista şConstruc ia de ma iniö nr. 2/2011, p. 28-34 ISSN: 057367419, 2011
26. **Velicu, R.**, Dual axes PV tracking system driven by one linear actuator Annals of the Oradea University 2011, Fascicle of Management and Technological Engineering, vol X(XX), nr. 2, 2011, p. 3.114-3.119, ISSN 158360691(e)
27. **Velicu, R.**, Dual axes PV tracking system with rotational and linear actuator Annals of the Oradea University 2011, Fascicle of Management and Technological Engineering, vol X(XX), nr. 1, 2011, p. 3.115-3.120, ISSN 158360691(e)

28. **Velicu, R.**, Bozan, C. Gear ratios of planetary double step multipliers for wind turbines from minimum volume criterion. *Machine Design 2010*, University of NoviSad, p. 137-140, 2010, ISSN 1821-1259
29. Moldovean, G., Butuc, B., **Velicu, R.** Dual Axis Tracking System with a Single Motor revista: *Mechanism and Machine Science*, Volume 5. *New Trends in Mechanism Science. Analysis and Design*. Springer. Eucomes, p. 649-656, 2010, ISBN: 978-90-481-9688-3
30. **Velicu, R.**, Lates, M., Moldovean, Gh. Loading Cases and Forces on Azimuthal Solar Tracking Systems with Linear Actuators. *Proceedings of SYROM 2009*, Bra ov, Romania, p. 723-733. Springer Verlag, 2009, ISBN 978-90-481-3521-1
31. **Velicu, R.**, Moldovean, Gh., Bozan, C. On the position of the single pair tooth segment relative to the pitch point, for internal gears, with effect on contact stress calculus. *Proceedings of Eucomes 2008*, The Second European Conference on Mechanism Science, Monte-Casino, Italia, Springer Verlag, 2009, XXVI, ISBN:978-1-4020-8914
32. Gavrilă, C.C., **Velicu, R.** Kinematics of mobile transversal coupling, as multibody system revista: *Proceedings of 6th International Conference of DAAAM Baltic INDUSTRIAL ENGINEERING*, 2008, ISSN:2346-6138
33. **Velicu, R.** On the mechanical efficiency of 1 DOF two-planetary groups *Machine Design*, p. 68-74, 2008, ISBN:978-86-7892-105-6
34. **Velicu, R.** On the performance of a two-planetary group gearbox *Bulletin of the Transilvania University of Brasov, Series I: Engineering Sciences*, vol 1, 2008, ISSN: 2065-2119
35. **Velicu, R.**, Lates, R. Adapted stand for testing flat plate solar thermal collectors *Annals of the Oradea University, Fascicle of Management and Technological Engineering*, vol XVII(VII), p. 1165-1171, 2008, ISSN 158360691(e)
36. **Velicu, R.** Synthesis of two-planetary group gearboxes, based on optimizing criteria *Machine Design*, p. 217-222, 2007, ISBN:978-86-7892-105-6
37. **Velicu, R.** On the mechanical efficiency of speed multipliers for wind turbines *Annals of the Oradea University, Fascicle of Management and Technological Engineering*, vol XVI(VI), p. 1078-1081, 2007, ISSN 158360691(e)

#### ARTICOLE PUBLICATE IN VOLUME ALE CONFERINTELOR INTERNAȚIONALE

1. **Velicu R.**, Lates MT, Saulescu R, Todi-Eftimie A. Theoretical and experimental study of friction in bearing mountings, *IBERTRIB 2013*, VII Iberian Conference on Tribology, Porto, 2013
2. Late , M. T., **Velicu, R.** Friction analysis in ball bearings. *IBERTRIB 2013*, VII Iberian Conference on Tribology, FEUP, Porto, Portugal, 20-21 June, 2013, P.1-6.
3. Todi-Eftimie A.L, **Velicu R.**, Lates M.T. Testing of Friction in Bearing Mountings. 8-th International Conference on Tribology *BALKANTRIB 14*, Sinaia, Romania, ISBN-978-973-919-570-8, 2014
4. **Velicu, R.**, Vi a, I., Moldovean, G., Butuc, B. Profile Shift Coefficients and Thickness Modification Coefficients for Straight Bevel Gears under Static Tooth Root Stress used on PV Tracking Systems. 13th World Congress in Mechanism and Machine Science (IFTToMM), Guanajuato, México, 19-25 June, 2011, ISBN 978-607-441-131-7
5. Moldovean, G., Butuc, B., **Velicu, R.**, Gavrilă, C.C. Mechanical Efficiency of Straight Bevel Gears used in Photovoltaic Trackers Depending on Geometrical Parameters. 13th World Congress in Mechanism and Machine Science (IFTToMM), Guanajuato, México, 19-25 June, 2011, ISBN 978-607-441-131-7

6. Butuc, B., Moldovean, G., **Velicu, R.** Wind and weight induced loads on a gear based azimuthal photovoltaic platform International Conference on Renewable Energies and Power Quality (ICREPQ01), 2011 ISSN:2172-038X
7. **Velicu, R.**, Moldovean, G. Embodiment design steps for an azimuthal PV tracking system with rotational and linear actuators, Proceedings of the 7th International Conference on Research and Developments of Mechanical Elements and Systems (IFTToMM, ADEKO), 24-27.04.2011, Zlatibor, Serbia, p. 199-204, ISBN 978-86-6055-012-7
8. Moldovean, G., **Velicu, R.**, Butuc, B. On the influence of geometry over the transverse load factor for bending stress of straight bevel gears applied to a PV tracking system, Proceedings of the 7th International Conference on Research and Developments of Mechanical Elements and Systems (IFTToMM, ADEKO), 24-27.04.2011, Zlatibor, Serbia, p. 515-520, ISBN 978-86-6055-012-7
9. **Velicu, R.**, Moldovean, G., Scaletchi, I., Butuc, B. Wind loads on an azimuthal photovoltaic platform. Experimental study. International Conference on Renewable Energies and Power Quality (ICREPQ00), 2010 ISSN:2172-038X
10. **Velicu, R.**, Lates, M., Moldovean, Gh. Analysis and Simulation of Azimuthal Solar Tracking System with Linear Actuators. Proceedings of the 24th European Photovoltaic Solar Energy Conference, Hamburg, 21-25 September 2009.
11. Bozan, C., **Velicu, R.**, Moldovean, G. Gear ratios of double step multipliers for wind turbines from minimum volume condition. International Conference General Machine Design, Ruse 48 (4), p. 184-188, 2009, ISSN: 1311-3321
12. **Velicu, R.** On the mechanical efficiency of planetary units. Proceedings of the 5th International Conference on Design in Mechanical Engineering - KOD08, Novi Sad, Serbia, p. 117-120, ISBN 978-86-7892-104-9
13. Moldovean, G., Velicu, D., **Velicu, R.** On the maximal contact stress point for cylindrical gears. Proceedings of Twelfth World Congress in Mechanism and Machine Science IFTToMM 2007

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