

References

- [1] **Adamczyk J., Cioch W., Krzyworzeka P.** Diagnosing of rotating machinery operating under variable conditions. *The Naval Academy Scientific Papers*, Vol. 48, Issue 169 K/1, 2007, p. 9-15.
- [2] **Adamczyk J., Kowal J., Wszolek W., Wszolek T.** The impact of road traffic on a TV studio. *Proceedings of the Tenth International Congress on Sound and Vibration*, 2003, p. 4807-4814.
- [3] **Adamczyk J., Targosz J.** Protection from Vibration Caused By the Road Transport. AGH, Cracow, 2000, p. 68.
- [4] **Adamczyk J., Targosz J.** Road Vibration. KRiDM AGH, Cracow, 2003, p. 181.
- [5] **Adams D.** Health Monitoring of Structural Materials and Components. Wiley, New York, 2007.
- [6] **Alleyne D. N.** The nondestructive testing of plates using ultrasonic Lamb waves. PhD thesis Imperial College of Science, Technology and Medicine University of London, 1991.
- [7] **Amari M., Parizet E., Roussarie V.** Multimodal approach to automobile driving comfort: The influence of visual setting on assessments of vibro-acoustic comfort in simulators. *Applied Acoustic*, Vol. 74, 2013, p. 1378-1387.
- [8] **Andrianov I. V., Awrejcewicz J., Danishevs'kyy V. V., et al.** Wave propagation in periodic composites: higher-order asymptotic analysis versus plane-wave expansions method. *Journal of Computational and Nonlinear Dynamics*, Vol. 6, Issue 1, 2011.
- [9] **Au F. T. K., Cheng Y. S., Cheung Y. K.** Vibration analysis of bridges under moving vehicles and train: an overview. *Progress in Structural Engineering and Materials*, Vol. 3, 2006, p. 299-304.
- [10] **Avramov K. V., Awrejcewicz J., Danishevs'kyy V. V., et al.** Localization of vibrations in blade assemblies. *Journal of Vibration and Control*, Vol. 16, Issue 11, 2010, p. 1605-1622.
- [11] **Awrejcewicz J.** Theoretical and numerical approaches to dynamics of selected engineering problems preface. *International Journal of Structural Stability and Dynamics*, Vol. 13, Issue 7, 2013.
- [12] **Awrejcewicz J., Krysko A. V., Kutepov I. E., et al.** Analysis of chaotic vibrations of flexible plates using fast Fourier transforms and wavelets. *International Journal of Structural Stability and Dynamics*, Vol. 13, Issue 7, 2013.
- [13] **Awrejcewicz J., Krysko A. V., Soldatov V.** On the wavelet transform application to a study of chaotic vibrations of the infinite length flexible panels driven longitudinally. *International Journal of Bifurcation and Chaos*, Vol. 19, Issue 10, 2009, p. 3347-3371.
- [14] **Awrejcewicz J., Krysko A. V., Yakovleva T. V., et al.** Chaotic synchronization of vibrations of a coupled mechanical system consisting of a plate and beams. *Latin American Journal of Solids and Structures*, Vol. 10, Issue 7, 2013, p. 163-174.
- [15] **Awrejcewicz J., Papkova I. V., Krylova E. U., et al.** Wavelet-based analysis of the regular and chaotic dynamics of rectangular flexible plates subjected to shear-harmonic loading. *Shock and Vibration*, Vol. 19, Issue 5, 2012, p. 979-994.
- [16] **Bajkowski J., Jasiński M., Mączak J., et al.** The active magnetorheological support as an element of damping of vibrations transferred from the ground to large-scale structure supports. *Structural Health Monitoring II: Key Engineering Materials*, Vol. 518, 2012, p. 350-357.
- [17] **Bajkowski J., Jasiński M., Mączak J., Radkowski S., Zalewski R.** The active magnetorheological support as an element of damping of vibrations transferred from the ground to large-scale structure supports. *Key Engineering Materials*, Vol. 518, 2012, p. 350-357.
- [18] **Bajkowski J., Nachman J., Shillor M., et al.** A model for a magnetorheological damper. *Mathematical and Computer Modelling*, Vol. 48, Issue 1-2, 2008, p. 56-68.
- [19] **Balageas J., Fritzen C., Guemes A.** *Structural Health Monitoring Systems*. ISTE, 2006.
- [20] **Bartelmus W.** Mathematical modelling and computer simulations as an aid to gearbox diagnostics. *Mechanical Systems and Signal Processing*, Vol. 15, Issue 5, 2001, p. 855-871.

- [21] **Batko W., Majkut L.** Classification of phase trajectory portraits in the process of recognition the changes in technical condition of monitored machines and constructions. *Archives of Metallurgy and Materials*, Vol. 55, Issue 3, 2010, p. 757-762.
- [22] **Batko W., Majkut L.** The phase trajectories as the new diagnostic discriminants of foundry machines and devices usability. *Archives of Metallurgy and Materials*, Vol. 52, Issue 3, 2007, p. 389-394.
- [23] **Beards C. F.** *Structural Vibration: Analysis and Damping*. Halsted Press, New York, 1996.
- [24] **Bejger A., Gawdzinska K.** Identification of structural defects of metal composite castings with the use of elastic waves. *Archives of Metallurgy and Materials*, Vol. 56, Issue 1, 2011, p. 129-133.
- [25] **Belgacem W., Berry A., Masson P.** Active vibration control on a quarter-car for cancellation of road noise disturbance. *Journal of Sound and Vibration*, Vol. 331, 2012, p. 3240-3254.
- [26] **Bin Xu, Jian-Fei Lu, Jian-Hua Wang** Numerical analysis of the isolation of the vibration due to Rayleigh waves by using pile rows in the poroelastic medium. *Arch. Applied Mechanics*, Vol. 80, 2010, p. 123-142.
- [27] **Blacha L., Burdzik R., Smalcerz A., Matuła T.** Effects of pressure on the kinetics of manganese evaporation from the Ot4 Alloy. *Archives of Metallurgy and Materials*, Vol. 58, Issue 1, 2013, p. 197-201.
- [28] **Borowiec M., Hunicz J., Sen A., Litak G., Koszalka G., Niewczas A.** Vibration of a vehicle excited by real road profiles. *Forschung im Ingenieurwesen*, Vol. 74, 2010, p. 99-109.
- [29] **Bouazara M., Richard M. J., Rakheja S.** Safety and comfort analysis of a 3-D vehicle model with optimal non-linear active seat suspension. *Journal of Terramechanics*, Vol. 43, 2006, p. 97-118.
- [30] **Bradford S. C., Yang J., Heaton T.** Variations in the dynamic properties of structures: the Wigner-Ville distribution. 1906 Earthquake Centennial Conference, San Francisco, 2006.
- [31] **Brauch R.** Vibration analysis and standards, a review of vibration exposure regulations, standards, guidelines and current exposure assessment methods. *AIHA Florida Conference, USA, 2009*.
- [32] **Brownjohn James M. W.** Energy dissipation from vibrating floor slabs due to human-structure interaction. *Shock and Vibration*, Vol. 8, 2001, p. 315-323.
- [33] BS 6841. Guide to measurement and evaluation of human exposure to whole-body mechanical vibration and repeated shock, 1987.
- [34] **Bubulis A., Jūrēnas V., Stepanenko D., Chigarev A., Minchenya V.** Nonlinear effects related to vibrations of long elastic waveguides: formulation of nonlinear equations. *Journal of Vibroengineering*, Vol. 10, Issue 2, 2008, p. 222-224.
- [35] **Bubulis A., Reizina G., Korobko E., Bilyk V., Efremov V.** Controllable vibro-protective system for the driver seat of a multi-axis vehicle. *Journal of Vibroengineering*, Vol. 13, Issue 3, 2011, p. 552-557.
- [36] **Burdzik R.** Material vibration propagation in floor pan. *Archives of Materials Science and Engineering*, Vol. 59, Issue 1, 2013, p. 22-27.
- [37] **Burdzik R.** Monitoring system of vibration propagation in vehicles and method of analysing vibration modes. 12th International Conference on Transport Systems Telematics, Vol. 329, p. 406-413.
- [38] **Burdzik R.** Research on structure and directional distribution of vibration generated by engine in the location where vibrations penetrate the human organism. *Diagnostics*, Vol. 14, Issue 2, 2013, p. 57-61.
- [39] **Burdzik R.** The influence of the rotational speed of engine on vibrations transferred on vehicle construction. *Silesian University of Technology Scientific Papers, Transport*, Vol. 72, 2011, p. 13-23.
- [40] **Burdzik R.** The research of vibration of vehicle floor panel. *Silesian University of Technology Scientific Papers, Transport*, Vol. 67, 2010, p. 23-30.
- [41] **Burdzik R.** Identification of structure and directional distribution of vibration transferred to car-body from road roughness. *Journal of Vibroengineering*, Vol. 16, Issue 1, 2014, p. 324-333.
- [42] **Burdzik R.** Research on the influence of engine rotational speed to the vibration penetration into the driver via feet – multidimensional analysis. *Journal of Vibroengineering*, Vol. 15, Issue 4, 2013, p. 2114-2123.
- [43] **Burdzik R.** Research of the vibration in 3 axes of car body for different idle gear rotational speed. *Transactions on Transport Systems, Telematics and Safety*, Chapter 5. Vehicles parameters, Gliwice, 2011, p. 203-214.
- [44] **Burdzik R.** Multidimensional identification of signal's characteristics properties for the analysis of vibration properties of vehicle floor panel. *Scientific Papers of the Warsaw University of Technology, s. Transport*, Vol. 98, 2013, p. 29-36.
- [45] **Burdzik R., Czech P., Konieczny Ł., Fołęga P.** Exposure to vibrations generated by the motor vehicle. *Journal of Polish Cimac Energetic Aspects*, Vol. 8, Issue 1, 2013, p. 23-30.

- [46] **Burdzik R., Czech P., Konieczny Ł., Wojnar G.** Analysis of directional distribution of vibrations generated by the combustion engine. *Journal of Polish Cimac Energetic Aspects*, Vol. 7, Issue 1, 2012, p. 27-32.
- [47] **Burdzik R., Doleček R.** Research of vibration distribution in vehicle constructive. *Perner's Contacts*, Vol. 7, Issue 4, 2012, p. 16-25.
- [48] **Burdzik R., Doleček R.** Advanced signal processing methods for research on vibration propagation in vehicle construction. *Perner's Contacts*, Vol. 8, Issue 2, 2013, p. 15-26.
- [49] **Burdzik R., Fołęga P., Łazarz B.** Frequency based estimators of dynamics of exposure to vibration and technical condition od shock absorber with signals registered in location of vibration penetration into human organism. *Scientific Papers of the Warsaw University of Technology, s. Transport*, Vol. 98, 2013, p. 29-36.
- [50] **Burdzik R., Fołęga P., Łazarz B.** Research on influence of technical contition of spring element and vehicle operating parameters on vibration distribution in vehicle construction. *Scientific Papers of the Warsaw University of Technology, s. Transport*, Vol. 98, 2013, p. 29-36.
- [51] **Burdzik R., Fołęga P., Łazarz B., Stanik Z., Warczek J.** Analysis of the impact of surface layer parameters on wear intensity of frictional couples. *Archives of Metallurgy and Materials*, Vol. 57, Issue 4, 2012, p. 987-993.
- [52] **Burdzik R., Fołęga P., Węgrzyn T., Silva Abílio P.** Influence of exploitation tire stiffness on vehicle vibration. *Conferencia Engenharia, Portugalia*, 2009, p. 168-171.
- [53] **Burdzik R., Konieczny Ł.** Diagnosing of shock-absorbers of car vehicles at changeable pressure in tires. *Diagnostics*, Vol. 3, Issue 51, 2009, p. 27-32.
- [54] **Burdzik R., Konieczny Ł.** Application of vibroacoustic methods for monitoring and control of comfort and safety of passenger cars. *Solid State Phenomena*, Vol. 210, 2014, p. 20-25.
- [55] **Burdzik R., Konieczny Ł.** Research on structure, propagation and exposure to general vibration in passenger car for different damping parameters. *Journal of Vibroengineering*, Vol. 15, Issue 4, 2013, p. 1692-1700.
- [56] **Burdzik R., Konieczny Ł., Łazarz B.** Influence of damping characteristics changes on vehicles vibration research. *19th International Congress on Sound and Vibration*, 2012, p. 657.
- [57] **Burdzik R., Konieczny Ł., Figus T.** Concept of on-board comfort vibration monitoring system for vehicles. *13th International Conference on Transport Systems Telematics*, 2013, p. 418-425.
- [58] **Burdzik R., Mikulski J.** Analysis of vibration distribution in means of transport. *Symposium Proceedings EURO-Zel 2013, Recent challenges for European railways*, 2013, p. 14-21.
- [59] **Burdzik R., Peruń G, Warczek J.** Possibilities of using vibration signals for the identification of pressure level in tires with application of neural networks classification. *Key Engineering Materials*, Vol. 588, 2014, p. 223-231.
- [60] **Burdzik R., Stanik Z., Warczek J.** Method of assessing the impact of material properties on the propagation of vibrations excited with a single force impulse. *Archives of Materials and Metallurgy*, Vol. 57, Issue 2, 2012, p. 409-416.
- [61] **Cao M., Xu W., Ostachowicz W., Su Z.** Damage identification for beams in noisy conditions based on Teager energy operator-wavelet transform modal curvature. *Journal of Sound and Vibration*, Vol. 333, Issue 6, 2014, p. 1543-1553.
- [62] **Cempel C.** Singular values of symptom observation matrix of a system in operation as indicators of system damage. *Diagnostics and Structural Health Monitoring*, Vol. 4, Issue 60, 2011, p. 27-38.
- [63] **Cempel C., Tabaszewski M.** Multidimensional vibration condition monitoring of non-stationary systems in operation. *Mechanical Systems and Signal Processing*, Vol. 21, Issue 3, 2007, p. 1233-1241.
- [64] **Cho-Chung L., Chi-Feng C.** A study on biodynamic models of seated human subjects exposed to vertical vibration. *International Journal of Industrial Ergonomics*, Vol. 36, 2006, p. 869-890.
- [65] **Choromański W., Gągrowski A.** Synthesis of mechatronic suspension seats of vehicles from the point of view of minimizing the impact of vibration on the human. *Proceedings of The Transport of the 21st century*, Vol. 3, 2004, p. 59-65.
- [66] **Clemente P., Rinaldis D.** Protection of a monumental building against traffic-induced vibrations. *Soil Dynamics and Earthquake Engineering*, Vol. 17, 1998, p. 289-96.
- [67] **Corbridge C., Griffin M. J., Harborough P.** Seat dynamics and passenger comfort. *Institute of Mechanical Engineers, Part F, Journal of Rail and Rapid Transit*, Vol. 203, 1989, p. 57-64.
- [68] **Crocker M. J., Battacharyaa M. C., Price A. J.** Sound and vibration transmission through panels and tie beams using statistical energy analysis. *Trans. ASME J.*, p. 775-782.

- [69] **Cutini M., Romano E., Bisaglia C.** Assessment of the influence of the eccentricity of tires on the whole-body vibration of tractor drivers during transport on asphalt roads. *Journal of Terramechanics*, Vol. 49, 2012, p. 197-206.
- [70] **Dąbrowski Z.** Diagnostic inferring on the bases of nonlinear models. *Acta Physica Polonica A*, Vol. 118, Issue 1, 2010, p. 45-48.
- [71] **Dąbrowski Z.** Modeling and identification of nonlinear system for technical diagnostics. Proceedings of the 8th International Congress on Sound and Vibration, China, 2001, p. 1083-1090.
- [72] **Dąbrowski Z.** Use of non-linear symptoms in technical diagnosis. *International Journal of Comadem*, Vol. 8, Issue 2, 2005, p. 36-41.
- [73] **Dąbrowski Z., Dziurdź J., Klekot G.** Studies on propagation of vibroacoustic energy and its influence on structure vibration in a large-size object. *Archives of Acoustics*, Vol. 32, Issue 2, 2007, p. 231-240.
- [74] **Dąbrowski Z., Zawisza M.** Investigations of the vibroacoustic signals sensitivity to mechanical defects not recognised by the OBD system in diesel engines. *Diffusion and Defect Data, Part B, Solid State Phenomena*, Vol. 180, 2012, p. 194-199.
- [75] **Dąbrowski Z., Deuskiewicz P.** Designing of high-speed machine shafts of carbon composites with highly nonlinear characteristics. *Key Engineering Materials*, Vol. 490, 2011, p. 76-82.
- [76] Official Journal of the European Communities. Directive 2002/44/EC of the European Parliament and of the Council of 25 June 2002 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration). Sixteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC.
- [77] **Dobry M. W.** The method of experimental verification of power distribution and energy flow in a human – machine system, structures – waves – human health. *Acoustical Engineering*, Polish Acoustical Society, Vol. 14, Issue 1, p. 45-48.
- [78] **Dobry M. W., Kolecka M.** The energy impact of whole-body vibration on the human body. *Scientific Papers of Cracow University of Technology*, Vol. 83, 2001, p. 69-76.
- [79] **Dupuis H.** Medical and occupational preconditions for vibration-induced spinal disorders: occupational disease no 2110 in Germany. *Int. Arch. Occup. Envir. Health*, Vol. 6, 1994, p. 303-309.
- [80] **Dziurdź J.** Transformation of nonstationary signals into pseudostationary signals for the needs of vehicle diagnostics. *Acta Physica Polonica A*, Vol. 118, Issue 1, 2010, p. 49-53.
- [81] **Dźygadło Z., Manerowski J.** Vibration and stability analysis of rotors on orthotropic supports. *Journal of Technical Physics*, Vol. 23, Issue 3-4, 1982, p. 299-308.
- [82] **Endo H., Randall R. B., Gosselin C.** Differential diagnosis of spall vs. cracks in the gear tooth fillet region: experimental validation. *Journal of Mechanical System and Signal Processing*, Vol. 23, Issue 3, 2008.
- [83] **Engel Z. W., Kowalski P.** Investigation of the influence of simultaneous vibroacoustic exposures on the operator. *Journal of the Theoretical and Applied Mechanics*, Vol. 46, Issue 4, 2008, p. 799-811.
- [84] **Engel Z. W., Kowalski P.** Investigation of the influence of simultaneous vibroacoustic exposures on the operator. *Journal of the Theoretical and Applied Mechanics*, Vol. 46, Issue 4, 2008, p. 799-811.
- [85] **Figlus T., Wilk A.** Application of analysis of envelope's spectrum for gearbox diagnosing. *International Review of Mechanical Engineering*, Vol. 6, Issue 6, 2012, p. 1350-1355.
- [86] **Figlus T., Wilk A.** Comparison of the sound pressure measurement and the speed measurement of the gearbox vibrating surface. *Journal of Transport Problems*, Vol. 7, Issue 1, 2012, p. 37-42.
- [87] **Gabor D.** Theory of communication, Part 2. The analysis of hearing, Part 3. Frequency compression and expansion, *Electrical Engineers – Part 3: Radio and Communication Engineering*. Journal of the Institution of Electrical Engineers, Vol. 93, Issue 26, 1946, p. 429-457.
- [88] **Griffin M.** Discomfort from feeling vehicle vibration. *Vehicle System Dynamics*, Vol. 45, Vol. 7-8, 2007, p. 679-698.
- [89] **Griffin M.** *Handbook of Human Vibration*. New York: Academic Press Ltd, 1990.
- [90] **Griffin M.** Minimum health and safety requirements for workers exposed to handtransmitted vibration and whole-body vibration in the European Union, a review. *Occup Environ Med.*, Vol. 61, 2004, p. 387-397.
- [91] **Griffin M.** Biodynamic response to whole-body vibration. *The Shock and Vibration Digest*, Vol. 13, Issue 3, 1981.
- [92] **Griffin M.** The evaluation of vehicle vibration and seats. *Applied Ergonomics*, Vol. 9, Issue 1, 1978, p. 15-21.
- [93] **Gronostajski Z., Polak S.** Quasi-static and dynamic deformation of double-hat thinwalled elements of vehicle controlled body crushing zones joined by clinching. *Archives of Civil and Mechanical Engineering*, Vol.8, Issue 2, 2008, p. 57-66.

- [94] **Grządziela A.** Modelling of propeller shaft dynamics at pulse load. Polish Maritime Research, Vol. 15, Issue 4, 2008, p. 52-58.
- [95] **Halverson W. G., Brown D. L.** Impulse technique for structural frequency response testing, University of Cincinnati. Reprinted from Sound and Vibration, 1977.
- [96] **Harazin B.** Occupational exposure to whole-body vibration in Poland. Occupational Medicine, Vol. 53, Issue 6, 2002, p. 465-472.
- [97] **Hodges C. H., Woodhouse J.** Theories of noise and vibration transmission in complex structures. Rep. Prog. Phys., Vol. 49, 1986, p. 107-170.
- [98] **Hunaidi O., Rainer J. H., Pernica G.** Measurement and analysis of traffic-induced vibrations. Proceedings of the 2nd International Symposium on Transport Noise and Vibrations, Russia, 1994, p. 103-108.
- [99] **Hung H. H., Yang Y. B.** A review of researches on ground-borne vibrations with emphasis on those induced by trains. Proc. Natl. Sci. Council., Vol. 25, 2001, p. 1-16.
- [100] International Organization for Standardization. ISO 1978, guide for the evaluation of human exposure to whole-body vibration. 2nd Edition, International Standard 2631-1978(E).
- [101] International Organization for Standardization. ISO 1997, mechanical vibration and shock – evaluation of human exposure to whole-body vibration, International Standard 2631-1:1997(E).
- [102] International Organization for Standardization. ISO 2631, mechanical vibration and shock-evaluation of human exposure to whole-body vibration, 1997.
- [103] International Organization for Standardization. ISO 2631-1, mechanical vibration and shock. Evaluation of human exposure to whole – body vibration. Part 1: General requirements, 1997.
- [104] International Organization for Standardization. ISO 2631-4, mechanical vibration and shock. Evaluation of human exposure to whole – body vibration. Part 4: Guidelines for the evaluation of the effects of vibration and rotational motion on passenger and crew comfort in fixed-guide way transport system, 2001.
- [105] International Organization for Standardization. ISO 2631-5, mechanical vibration and shock. Evaluation of human exposure to whole – body vibration. Part 5: Method for evaluation of vibration containing multiple shock, 2004.
- [106] International Organization for Standardization. ISO 5982, mechanical vibration and shock – Range of idealized values to characterize seated-body biodynamic response under vertical vibration, 2001.
- [107] International Organization for Standardization. ISO 7962, mechanical vibration and shock – Mechanical transmissibility of the human body in the direction, 1987.
- [108] **Jasiński M., Radkowski S.** Use of bispectral-based fault detection method in the vibroacoustic diagnosis of the gearbox. Engineering Asset Lifecycle Management, 2010, p. 651-660.
- [109] **Jia-Yi Yeh, Jiun-Yeu Chen, Chen-Yang Liu, Chih-Chieh Chang** Control of wave propagation in periodic structures having defects. Journal of Science and Engineering Technology, Vol. 3, Issue 3, 2007, p. 45-50.
- [110] **Kacalak W., Krzyżyński T., Lewkowicz R., Balasz B.** Specific energy minimization in processes of abrasive machining. Journal of Applied Mathematics and Mechan., Vol. 80, Issue 3, 2000, p. 587-588.
- [111] **Kardas-Cinal E., Drożdźiel J., Sowiński B.** Simulation study of a relation between derailment coefficient and track condition. Archives of Transport, Vol. 21, Issue 1-2, 2009, p. 85-98.
- [112] **Khoshrovan M. R., Paykani A., Akbarzadeh A.** Design and modal analysis of composite drive shaft for automotive application. International Journal of Engineering Science and Technology, Vol. 3, Issue 4, 2011, p. 2543-2549.
- [113] **Kiciński J.** Microturbines in dispersed cogeneration – vibroacoustic threats. Archives of Acoustics, Vol. 32, Issue 2, 2007, p. 263-277.
- [114] **Kiciński J.** New method of analysis of non-linear stochastic and random vibrations. Vibrations in Physical Systems, Vol. 25, 2012, p. 13-22.
- [115] **Kiciński J., Drozdowski R., Materny P.** Nonlinear model of vibrations in a rotor-bearings system. Journal of Vibration and Control, Vol. 4, Issue 5, 1998, p. 519-540.
- [116] **Klekot G.** Application of structural vibration propagation for evaluation of technical objects. Mechanical Review, Vol. 10, 2010, p. 38-42.
- [117] **Kocańda A., Sadłowska H.** Automotive component development by means of hydroforming. Archives of Civil and Mechanical Engineering, Vol.8, Issue 3, 2008, p. 55-72.
- [118] **Kollek W., Kudzma Z., Stosiak M., Mackiewicz J.** Possibilities of diagnosing cavitation in hydraulic systems. Archives of Civil and Mechanical Engineering, Vol. 7, Issue 1, 2007, p. 61-74.

- [119] **Konieczny Ł., Burdzik R., Łazarz B.** Analysis of properties of automotive vehicle suspension arm depending on different materials used in the MSC.Adams environment. *Archives of Materials Science and Engineering*, Vol. 58, Issue 2, 2012, p. 171-176.
- [120] **Konieczny Ł., Burdzik R., Łazarz B.** Application of the vibration test in the evaluation of the technical condition of shock absorbers built into the vehicle. *Journal of Vibroengineering*, Vol. 15, Issue 4, 2013, p. 2068-2074.
- [121] **Korzeb J., Nader M., Różowicz J.** Review and estimation of traffic generated vibration developed in proximity of Warsaw subway line. 12th International Congress on Sound and Vibration, 2005, p. 5048-5055.
- [122] **Korzeb J., Różowicz J.** Analysis of dynamic influences on buildings and the people in them staying in the impact zone of transport. *Logistics*, Vol. 4, 2010, p. 9.
- [123] **Korzeb J.** Prediction of dynamic responses in area of influence of transport infrastructure. *Scientific Papers of the Warsaw University of Technology, Transport*, Vol. 90, 2013, p. 182.
- [124] **Kowal J., Konieczny J.** Active control of vibration with eigenvalue placement controller. *International Congress on Noise Control Engineering, Internoise*, Vol. 1, 2005, p. 149-158.
- [125] **Kowal J., Pluta J., Konieczny J., Kot A.** Energy recovering in active vibration isolation system - results of experimental research. *Journal of Vibration and Control*, Vol. 14, Issue 7, 2008, p. 1075-1088.
- [126] **Kudela P., Krawczuk M., Ostachowicz W., Palacz M., Zak A.** Wave propagation modelling in composite plates with damage. *Proceedings of the 3rd European Workshop, Structural Health Monitoring*, 2006, p. 1214-1221.
- [127] **Kuznetsov A., Mammadov M., Sultan I., Hajilarov E.** Optimization of a quarter-car suspension model coupled with the driver biomechanical effects. *Journal of Sound and Vibration*, Vol. 330, 2011, p. 2937-2946.
- [128] **Kuznetsov A., Mammadov M., Sultan I.A., Hajilarov E.** Vibration analysis optimization of parameters of the two mass model based on Kelvin elements. *Proceedings of the Eighth IEEE International Conference on Control and Automation, China*, 2010, p. 1326-1332.
- [129] **Lak M. A., Degrande G., Lombaert G.** The effect of road unevenness on the dynamic vehicle response and ground-borne vibrations due to road traffic. *Soil Dynamics and Earthquake Engineering*, Vol. 31, 2011, p. 1357-1377.
- [130] **Łazarz B., Wojnar G., Czech P.** Early fault detection of toothed gear in exploitation conditions. *Maintenance and Reliability*, Vol. 1, Issue 49, 2011, p. 68-77.
- [131] **Lee T. K., Kim B. S.** Vibration analysis of automobile tire due to bump impact. *Applied Acoustics*, Vol. 69, 2008, p. 473-478.
- [132] **Lord Rayleigh** *The Theory of Sound*. 2nd ed. MacMillan, London, 1894, 1st ed. Dover, New York, 1945.
- [133] **Lozia Z.** A two-dimensional model of the interaction between a pneumatic tire and an even and uneven road surface. *Vehicle System Dynamics*, Vol. 17, Supplement S, 1988, p. 227-238.
- [134] **Lozia Z.** Truck front wheels and axle beam vibrations. *5th Mini Conference on Vehicle System Dynamics, Identification and Anomalies*, Budapest, 1996.
- [135] **Magala Schoeller M., Tautzb J., Casasc J.** The role of leaf structure in vibration propagation. *Journal of the Acoustical Society of America*, Vol. 108, Issue 5, 2000, p. 2412-2418.
- [136] **Manerowski J., Zgrzywa F., Sibilski K.** A neural model of coefficients of forces and moments of aerodynamic forces for a turbo-prop aircraft. *Collection of Technical Papers, Atmospheric Flight Mechanics Conference*, Vol. 1, 2006, p. 682-691.
- [137] **Mazur K., Pawełczyk M.** Active noise control with a single nonlinear control filter for a vibrating plate with multiple actuators. *Archives of Acoustics*, Vol. 38, Issue 4, 2013, p. 537-545.
- [138] **Mead D. J.** Wave propagation in continuous periodic structures: research contributions from Southampton 1964-1995. *Journal of Sound and Vibration*, Vol. 190, Issue 3, 1996, p. 495-524.
- [139] **Michalski R., Wierzbicki S.** An analysis of degradation of vehicles in operation. *Maintenance and Reliability*, Vol. 1, Issue 3, 2008, p. 30-32.
- [140] **Michel M., Guo X., Gibson L., McMahon T., Hayes W.** Compressive fatigue behavior of bovine trabecular bone. *J. Biomech.*, Vol. 26, 1993, p. 453-463.
- [141] **Mityurich G. S., Aleksiejuk M., Ranachowski P., Pelivanov I. M., Serdyukov A. N.** Photoacoustic diagnostics of inhomogeneous gyrotropic materials with internal stress using bessel light beams. *Archives of Metallurgy and Materials*, Vol. 56, Issue 4, 2011, p. 1235-1242.

- [142] **Morrison J., Robinson D., Roddan G., Nicol J., Springer M., Martin S., Cameron B.** Development of a standard for the health hazard assessment of mechanical shock and repeated impact in army vehicles. Phase 5. B.C. Research Inc., Vancouver, 1997, Project No: 6-06-600.
- [143] **Nader M.** Influence of mechanical vibration on the human body in the means of transport and its modeling. *Archives of Transport*, Vol. 12, Issue 2, 2000, p. 33-53.
- [144] **Nader M., Chudzikiewicz A.** The energy flow method for estimation of the vibrations effect on man-vehicle systems. *Machine Dynamic Problems*, Vol. 28, Issue 2, Warsaw, 2004, p. 7-22.
- [145] **Nader M., Korzeb J.** Analysis of the dynamic influence of urban transport on the environment. *Proceedings of 5th IC-SCCE*, Greece, 2012, p. 67-74.
- [146] **Nahvi H., Fouladi M. H., Mohd Nor M. J.** Evaluation of whole – body vibration and ride comfort in a passenger car. *Proceedings of ICSV16*, Cracow, Poland, 2009.
- [147] **Nguyen V. N., Inaba S.** Effects of tire inflation pressure and tractor velocity on dynamic wheel load and rear axle vibrations. *J. Terramech*, Vol. 48, 2011, p. 3-16.
- [148] **Ostachowicz W., Krawczuk M., Zak A., Kudela P.** Damage detection in elements of structures by the elastic wave propagation method. *Computer Assisted Mechanics and Engineering Sciences*, Vol. 12, Issue 1, 2006, p. 109-124.
- [149] **Ostachowicz W., Kudela P., Krawczuk M., Zak A.** Guided waves in structures for SHM: the time-domain spectral element method. *Polish Academy of Sciences, Institute of Fluid Flow Machinery*, Poland, 2012, p. 337.
- [150] **Ostachowicz W., Kudela P., Radziński M.** Guided wavefield images filtering for damage localization. *Key Engineering Materials*, Vol. 558, 2013, p. 92-98.
- [151] **Ostachowicz W., Radziński M.** Structural health monitoring by means of elastic wave propagation. *Journal of Physics, Conference Series*, Vol. 382, Issue 1, 2012.
- [152] **Paddan G., Griffin M.** Evaluation of whole-body vibration in vehicles. *Journal of Sound and Vibration*, Vol. 253, Issue 1, 2002, p. 195-213.
- [153] **Pai P., Nguyen B., Sundaresan M.** Nonlinearity identification by time-domain only signal processing. *International Journal of Non-Linear Mechanics*, Vol. 54, 2013, p. 85-98.
- [154] **Papalukopoulos C., Giadopoulos D., Natsiavas S.** Dynamics of large scale vehicle models coupled with driver biodynamic models. *Proceedings of the fifth GRACM International Congress on Computational Mechanics*, Limassol, 2005.
- [155] **Pawelczyk M.** Acoustics and vibration as fascinating challenges to specialists in automatic control and signal processing. *International Journal of Acoustics and Vibrations*, Vol. 11, Issue 3, 2006, p. 118-119.
- [156] **Popescu Th. D.** Analysis of traffic-induced vibrations by blind source separation with application in building monitoring. *Mathematics and Computers in Simulation*, Vol. 80, 2010, p. 2374-2385.
- [157] **Prasad Ravi, Seshu D. R.** A study on dynamic characteristics of structural materials using modal analysis. *Asian Journal of Civil Engineering*, Vol. 9, Issue 2, 2008, p. 141-152.
- [158] **Qiu Y., Griffin M. J.** Transmission of vibration to the backrest of a car seat evaluated with multi-input models. *Journal of Sound and Vibration*, Vol. 274, 2004, p. 297-321.
- [159] **Radkowski S., Smalko Z., Pietak A., Woropay M.** Use of bispectral analysis in condition monitoring of machinery. *Structural Health Monitoring*, 2006, p. 627-634.
- [160] **Radkowski S., Szczurowski K.** Use of vibroacoustic signals for diagnosis of pre-stressed structures. *Maintenance and Reliability*, Vol. 14, Issue 1, 2012, p. 84-91.
- [161] **Raghavan A., Cesnik C. E. S.** Review of guided – waves structural health monitoring. *The Shock and Vibration Digest*, Vol. 39, 2007, p. 91-114.
- [162] **Ragulskis K., Kanapeckas K., Jonušas R., Juzėnas K.** Vibrations generator with a motion converter based on permanent magnet interaction. *Journal of Vibroengineering*, Vol. 12, Issue 1, 2010, p. 124-132.
- [163] **Ragulskis L., Palevicius R., Ragulskis M., Rubliauskas D., Palevicius A.** Analytical, numerical and experimental investigation of self resonance in vibration excitation systems. *Proceedings of SPIE, The International Society for Optical Engineering*, Vol. 5764, 2005, p. 641-649.
- [164] **Ragulskis M., Maskeliunas R.** Measurement of transverse vibrations of piezoelectric ceramics by atomic force microscopy. *Experimental Techniques*, Vol. 30, Issue 2, 2006, p. 37-41.
- [165] **Ragulskis M., Palevicius A., Ragulskis L., Bubulis A.** Generalized Abel transform for the analysis of fluid vibration in a tube. *Optical Engineering*, Vol. 46, Issue 6, 2007.
- [166] **Rustighi E., Elliott S. J., Finnveden S., Gulyas K., Mocsai T., Dantid M.** Linear stochastic evaluation of tire vibration due to tire/road excitation. *Journal of Sound and Vibration*, Vol. 310, 2008, p. 1112-1127.

- [167] **Sawalhi N., Randall R. B.** Simulating gear and bearing interaction in the presence of faults, Part I – The combined gear bearing dynamic model and simulation of localized bearing faults. *Journal of Mechanical System and Signal Processing*, Vol. 22, 2008, p. 1924-1951.
- [168] **Sayers M. W., Karamihis S. M.** *The Little Book of Profiling*. Regent of the University of Michigan, 1998.
- [169] **Seidel H.** Effects and Evaluation of Whole-Body Vibration – Biological Aspects. *Humanschwingungen*, 2004, p. 1-24.
- [170] **Seidel H.** On the relationship between whole-body vibration exposure and spinal health risk. *Industrial Health*, Vol. 43, 2005, p. 361-377.
- [171] **Seidel H., Blüthner R., Hinz B., Schust M.** On the health risk of the lumbar spine due to whole-body vibration – theoretical approach, experimental data and evaluation of whole-body vibration. *J. Sound and Vibration*, Vol. 215, Issue 4, 1998, p. 723-741.
- [172] **Seidel H., Blüthner R., Menzel G., Hofmann J., Gericke L., Schust M.** in cooperation with **H. Kaiser and Ch. Mischke B. Hinz.** Prediction of spinal stress in drivers from field measurements. European Commission Quality of Life and Management of Living Resources Programme Key Action 4, Environment and Health Risks of Occupational Vibration Exposures, Annex 19 to Final Technical Report, 2007.
- [173] **Sekulic D., Dedovic V., Rusov S., Šalinic S., Obradovic A.** Analysis of vibration effects on the comfort of intercity bus users by oscillatory model with ten degrees of freedom. *Applied Mathematical Modelling*, Vol. 37, 2013, p. 8629-8644.
- [174] **Sherwin L. M., Owende P. M. O., Kanali C. L., Lyons J., Ward S. M.** Influence of tire inflation pressure on whole-body vibrations transmitted to the operator in a cut-to-length timber. *Appl Ergon*, Vol. 35, Issue 3, 2004, p. 235-261.
- [175] **Snamina J., Kowal J., Orkisz P.** Active suspension based on low dynamic stiffness. *Acta Physica Polonica A*, Vol. 123, Issue 6, 2013, p. 1118-1122.
- [176] **Sobczyk K.** *Methods of Stochastic Mechanics*. PWN, Warsaw, 1973.
- [177] **Sobczyk K.** *Stochastic Mechanics: Genesis, Models, Applications*. Polish and World Achievements of Science, Science Technical, p. 430-462.
- [178] **Sobczyk K.** *Stochastic Wave Propagation*. Elsevier, Amsterdam, 1985, p. 1-248.
- [179] **Strzyżakowski Z.** Changing the intensity of the surface wave in the ground from a means of transport. *International Scientific Conference on Transport Twenty-First Century*, Białowieża, 2010.
- [180] **Stypuła K.** Ground vibrations due to underground train influence on the buildings. *Scientific Papers of Cracow University of Technology, Civil Engineering*, Vol. 72, 2001.
- [181] **Su Z., Ye L.** *Identification of Damage Using Lamb Waves*. Springer, Berlin Heidelberg, 2009.
- [182] **Szemplinska-Stupnicka W., Bajkowski J.** Multi-harmonic response in the regions of instability of harmonic solution in multi-degree-of-freedom non-linear systems. *International Journal of Non-Linear Mechanics*, Vol. 15, Issue 1, 1980, p. 1-11.
- [183] **Szemplinska-Stupnicka W., Bajkowski J.** The 1/2 subharmonic resonance and its transition to chaotic motion in a nonlinear oscillator. *International Journal of Non-Linear Mechanics*, Vol. 21, Issue 5, 1986, p. 401-419.
- [184] **Takemiya H.** Environmental vibrations: prediction monitoring and evaluation. *Proceedings of the 2nd International Symposium on Environmental Vibrations, Prediction, Monitoring and Evaluation, Proceedings and Monographs in Engineering, Water and Earth Sciences*, Taylor & Francis, 2005.
- [185] **Taylor J. I.** *The Gear Analysis Handbook*. Vibration Consultants, Inc., USA, 2000.
- [186] **Thompson A. G., Pearce C. E. M.** RMS values for force, stroke and tyre deflection in a quarter-car model active suspension. *Vehicle System Dynamics*, Vol. 39, 2002, p. 57-75.
- [187] **Toward M., Griffin M. J.** The transmission of vertical vibration through seats: influence of the characteristics of the human body. *Journal of Sound and Vibration*, Vol. 330, 2011, p. 6526-6543.
- [188] **Tuma J.** Transmission and gearbox noise and vibration prediction and control. *Handbook of Noise and Vibration Control*, Chapter 88, Wiley, New York, 2007, p. 1080-1089.
- [189] **Tuma J., Šimek J., Škuta J., Los J.** Active vibrations control of journal bearings with the use of piezoactuators. *Mechanical Systems and Signal Processing*, Vol. 36, Issue 2, 2013, p. 618-629.
- [190] **Uhl T.** Modern methods of monitoring and diagnosing the structure. *Polish and World Achievements of Science, Science Technical*, p. 194-254.
- [191] **Uhl T.** The use and challenge of modal analysis in diagnostics. *Diagnostics*, Vol. 30, Issue 2, 2004, p. 151-160.
- [192] **Uhl T., Chudzikiewicz A., Karpiński J.** Dynamic problems in rail vehicle design. *Archives of Transport*, Vol. 12, Issue 1, 2000, p. 57-71.

- [193] **Verver M. M., Hoof J., Oomens C. W. J., Wouw N., Wismans J. S. H. M.** Estimation of spinal loading in vertical vibrations by numerical simulation. *Clinical Biomechanics*, Vol. 18, 2003, p. 800-811.
- [194] **Ville J.** Theory and applications of the notion of complex signal, Rand Corporation Technical Report T-92, Santa Monica, CA, 1958.
- [195] **Watts G. R.** Traffic induced vibrations in buildings. Research Report 246, Transport and Road Research Laboratory, 1990.
- [196] **Węgrzyn T., Piwnik J., Burdzik R., Wojnar G., Hadryś A.** New welding technologies for car body frame welding. *Archives of Materials Science and Engineering*, Vol. 58, Issue 2, 2012, p. 245-249.
- [197] **Wicher J., Więckowski D.** Influence of vibrations of the child seat on the comfort of child's ride in a car. *Maintenance and Reliability*, Vol. 77, Issue 1, 2010, p. 77-93.
- [198] **Więckowski D., Wicher J.** Safety and comfort of the of child's ride in child seat in a car. *Scientific Papers of Warsaw University of Technology Institute of Vehicle*, Vol. 4, 2010, p. 102-110.
- [199] **Wigner E.** On the quantum correction for thermodynamic equilibrium. *Physical Review*, Vol. 40, 1932, p. 749-759.
- [200] **Wilder D. G., Aleksiev A. R., Magnusson M. L., Pope M. H., Spratt K. F., Goel V. K.** Muscular response to sudden load. A tool to evaluate fatigue and rehabilitation. *Spine*, Vol. 21, Issue 22, 1996, p. 2628-39.
- [201] **Wilk A., Madej H., Figlus T.** Analysis of the possibility to reduce vibroactivity of the gearbox housing. *Maintenance and Reliability*, 2011, p. 42-49.
- [202] **Wong J. Y.** Theory of Ground Vehicles. John Wiley and Sons, Inc., New York, 2001.
- [203] **Woodhouse J.** An approach to the theoretical background of statistical energy analysis applied to structural vibration. *J. Acoust. Soc. A.*, Vol. 69, Issue 6, 1981, p. 1965-1709.
- [204] **Xian-feng Du, Li Zhi-jun, BI Feng-rong, Zhang Jun-hong, Wang Xia, Shao Kang** Vibration-based feature extraction of determining dynamic characteristic for engine block low vibration design. *J. Cent. South Univ.*, Vol. 19, 2012, p. 2238-2246.
- [205] **Xua Y. L., Guo W. H.** Effects of bridge motion and crosswind on ride comfort of road vehicles. *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 92, 2004.
- [206] **Yang J., Suematsu Y., Kang Z.** Twodegree-of-freedom controller to reduce the vibration of vehicle engine-body system. *IEEE Trans. on Control Systems Technology*, Vol. 9, Issue 2, 2001, p. 295-304.
- [207] **Yang Y. B., Hung H. H.** Soil vibrations caused by underground moving trains using the 2.5D finite/infinite element approach. *J. Geotech. Geoenviron. Eng. ASCE*, Vol. 134, 2008, p. 1633-1644.
- [208] **Yang Y. B., Hung H. H., Hsu L. C.** Ground vibrations due to underground train considering soil-tunnel interactions. *Interact. Multiscale Mech. Int. J.*, Vol. 1, 2005, p. 157-175.
- [209] **Yoshida J.** Idle shake simulation with engine exciting force. *JSAE Review*, Vol. 17, 1996, p. 65-77.
- [210] **Yunhe Yu, Naganathan Nagi G., Dukkupati Rao V.** A literature review of automotive vehicle engine mounting systems. *Mechanism and Machine Theory*, Vol. 36, 2001, p. 123-142.
- [211] **Zheng J., Suzuki K., Fujita M.** Car-following behavior with instantaneous driver-vehicle reaction delay: a neural-network-based methodology. *Transportation Research Part C*, Vol. 36, 2013, p. 339-351.
- [212] **Zimroz R., Urbanek J., Barszcz T., Bartelmus W. Milioz F. Martin N.** Measurement of instantaneous shaft speed by advanced vibration signal processing – application to wind turbine gearbox. *Metrology and Measurement Systems*, Vol. 18, Issue 4, 2011, p. 701-711.

ISBN 978-609-95549-2-1



9 786099 554921 >