Dr. Alexander K. Belyaev

List of publications in English and German

I. Books (Edited Volumes)

B1. A.K.Belyaev and A.Guran, eds. Selectic Topics in Structronics and Mechatronic Systems. World Scientific Publishers, 2003, 441 p.

B2. A.K.Belyaev, D.A.Indeitsev and H.Irschik, eds. Fourth European Conference on Structural Control, Proceedings. St. Petersburg, IPME, 2008, vol. 1&2, 885 p.

B3. A.K.Belyaev and R.S.Langley, eds. IUTAM Symposium on the Vibration Analysis of Structures with Uncertainties. Springer-Verlag, 2010, 496 p.

B4. H.Irschik, A.K.Belyaev and M. Krommer, eds. Advanced Dynamics and Model Based Control of Structures and Machines. Springer WienNewYork, 2012, 247 p.

B5. A.K.Belyaev, H.Irschik and M. Krommer, eds. Mechanics and Model-Based Control of Advanced Engineering Systems. Springer WienNewYork, 2013, 316 p.

B6. H.Irschik and A.K.Belyaev, eds. Dynamics of Mechanical Systems with Variable Mass. Springer, 2014, 266 p.

B7. M.Krommer, H.Irschik and A.K.Belyaev, eds. Advanced Dynamics and Model-Based Control of Structures and Machines. Springer WienNewYork, 2016, 327 p.

II. Translations of Books

T1. A.K.Belyaev, Translation of the book ”Vibrations of elasto-plastic bodies” by V.A.Palmov from Russian into English, Springer-Verlag, Berlin-Heidelberg, 1998, 311p.

T2. A.K.Belyaev, Translation of the book ”Nonlinear dynamics of active and passive systems of vibration protection” by M.Z.Kolovsky from Russian into English, Springer-Verlag, Berlin-Heidelberg, 1999, 426 p.

T3. A.K.Belyaev, Translation of the book ”Analytical mechanics” by A.I. Lurie from Russian into English, Springer-Verlag, Berlin-Heidelberg, 2002, 864 p.

T4. A.K.Belyaev, Translation of the book ”Dynamics of synchronising systems” by R.F. Nagaev from Russian into English, Springer-Verlag, Berlin-Heidelberg, 2002, 326p.

T5. A.K.Belyaev, Translation of the book ”Dynamics of mechanical systems with Coulomb friction” by Le xuan Anh from Russian into English, Springer-Verlag, Berlin-Heidelberg, 2003, 284p.

T6. A.K.Belyaev, Translation of the book ”Theory of elasticity” by A.I. Lurie from Russian into English, Springer-Verlag, Berlin-Heidelberg, 2005, 1050 p.

T7. Translation of the book ”Nonlinear electromechanics” by D.Yu.Skubov and K.Sh.Khodzaev from Russian into English, Springer-Verlag, Berlin-Heidelberg, 2008, 410 p.

III. Chapters in Books

C1. A.K.Belyaev, Combining continuous and discrete energy approaches to high frequency dynamics of structures. In: Selectic topics in structronics and mechatronic systems, A.K.Belyaev, A. Guran (eds). World Scientific Publishers, pp. 221-267, 2003.

C2. A.K.Belyaev, Basics of continuum mechanics. In: Advanced Dynamics and Control of Structures and Machines, H.Irschik, K.Schlacher (eds) Springer, Wien New York, pp. 1-8, 2004.

C3. A.K.Belyaev, Basics of analytical mechanics. In: Advanced Dynamics and Control of Structures and Machines, H.Irschik, K.Schlacher (eds) Springer, Wien New York, pp. 37-52, 2004.

C4. A.K.Belyaev, High frequency dynamics of engineering structures. In: Advanced Dynamics and Control of Structures and Machines, H.Irschik, K.Schlacher (eds) Springer, Wien New York, pp. 77-96, 2004.

C5. A.K.Belyaev, Benchmark study of three approaches to stochastic waves in elastic solids. In: IUTAM Symposium on Vibration Analysis of Structures with Uncertainties, A.K.Belyaev, R.S.Langley (eds) Springer-Verlag, pp. 217-231, 2010.

C6. A.K.Belyaev, Example of instability in drive mechanisms. In: Advanced Dynamics and Model Based Control of Structures and Machines, H.Irschik, A.K.Belyaev, M.Krommer (eds.), Springer WienNewYork, 2012.

C7. A.K.Belyaev, Fractional Derivatives in Some Mechanical Systems. In: A.K.Belyaev, H.Irschik and M. Krommer, eds. Mechanics and Model-Based Control of Advanced Engineering Systems. Springer WienNewYork, 2013, pp. 77-84

C8. A.K.Belyaev, Dynamics and Stability of Engineering Systems with Moving Continua. In: H.Irschik and A.K.Belyaev, eds. Dynamics of Mechanical Systems with Variable Mass. Springer, 2014, pp. 223-266.

C9. A.K. Belyaev, V.A. Polyanskiy, Yu.A. Yakovlev. Hydrogen as an indicator of high-cycle fatigue. In IUTAM Symposium on “Dynamical Analysis of Multibody Systems with Design Uncertainties”, Wiley, 2014.

C10. A.K. Belyaev, V.V. Eliseev, H. Irschik, E.A. Oborin Contact of Flexible Elastic Belt with Two Pulleys. In: Advanced Dynamics and Model-Based Control of Structures and Machines. Springer WienNewYork, M. Krommer, H. Irschik, A.K Belyaev eds., 2016, pp. 45-52

III. Papers in Journals

J1. A.K.Belyaev, Propagation of plane waves in anisotropic medium having a complex structure. Soviet Applied Mechanics (USA), 1978, **14**, No. 5, pp 490-494.

J2. A.K.Belyaev, Description of a one-dimensional vibrational state with a parabolic equation. Soviet Applied Mechanics (USA), 1985, **21**, No. 3. pp. 297-301.

J3. A.K.Belyaev, On the integral description of broad-band vibration of complex structures. Zeitschrift für Angewandte Mathematik und Mechanik, 1990, **70**, No. 4. pp. 62-63.

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J8. A.K.Belyaev, High-frequency vibration of extended complex structures. Int. Journal of Probabilistic Engineering Mechanics, **8**, 15-24, 1993.

J9. A.K.Belyaev and E.Brommundt, The influence of the motor and bit characteristics on the stability of drillstring rotation. Zeitschrift für Angewandte Mathematik und Mechanik, 1994, **74**, No. 4, pp. 53-55.

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J11. A.K.Belyaev and N.J.Krutzik, Localization of high-frequency vibrations of secondary systems of power plants. Acta Mechanica, 1994, **102**, No. 1, pp. 1-10.

J12. A.K.Belyaev, Vibrational conductivity approach to high-frequency dynamics. Int. J. Nuclear Engineering and Design, 1994, **150**, No 2-3, pp. 281-286.

J13. A.K.Belyaev und H.Irschik, Zur kinetischen Instabilität von elektrodynamischen Schwingungserregern. Zeitschrift für Angewandte Mathematik und Mechanik, 1995, **75**, S1, pp. 79-80.

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J60. A.K. Belyaev, V.V. Eliseev, E.A. Oborin. About one-dimensional models for describing elastic microslip in belt drive. International Review of Mechanical Engineering, 2016.

J61. A.K. Belyaev, A.A. Sukhanov, A.I.Tsvetkov. Gushing metal chain. Front. Mech. Eng., 2016. DOI 10.1007/s11465-016-0377-y

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IV. Papers in Proceedings and Books

P1. A.K.Belyaev and V.A.Palmov, Theory of vibroconductivity. Proceedings of the 1st Int. Conference on Recent Advances in Structural Dynamics, University of Southampton, England. Ed. M.Petyt, 1980, **1**, pp. 157-168.

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