



Professor Svetlana M. Bauer

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Saint-Petersburg State University, Russia

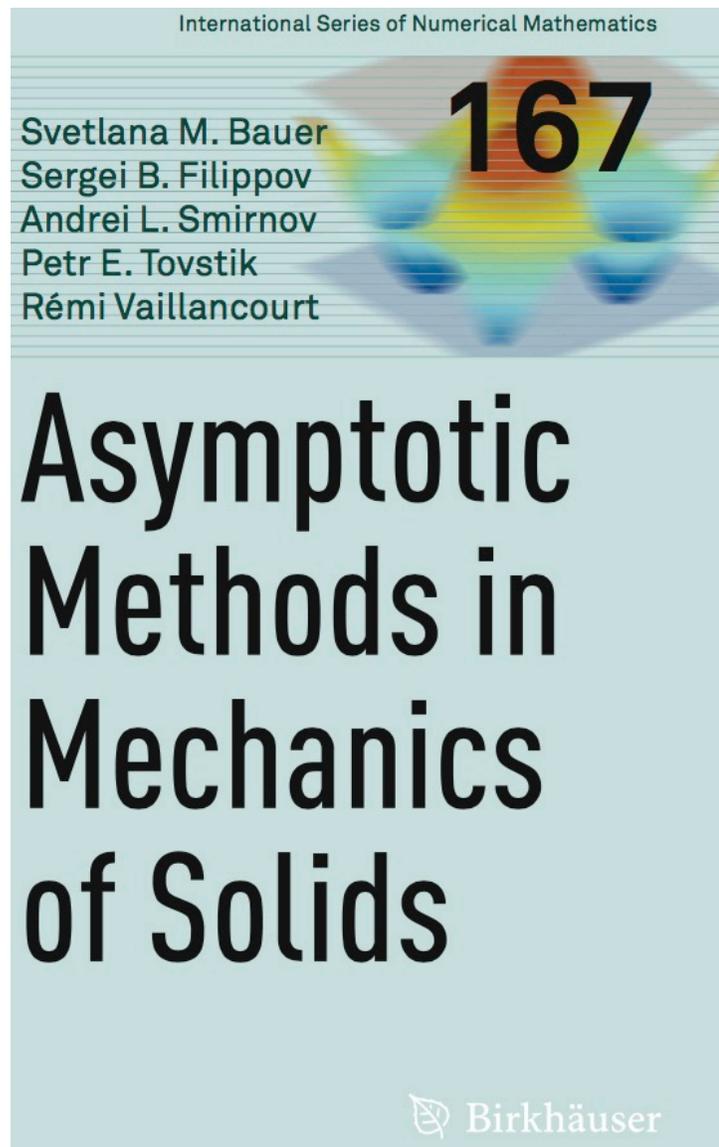
Education:

Graduated from Leningrad State University in 1975

PhD (Physics&Math, Mechanics of Solids) from Leningrad State University in 1980

Dr.Sci. (Physics&Math, Mechanics of Solids) from Leningrad State University in 2003.

PhD thesis " Stability of close to cylindrical shells with imperfections of form"



Dr.Sci. thesis "Models of shells and plates in ophthalmology"

Academic Career:

St. Petersburg State University, Department of Theoretical and Applied Mechanics

Supervisor of 8 PhD theses.

Author of 15 books and 200 journal and conference papers.

Research Interests:

Asymptotic methods; Theory of thin-walled structures; Biomechanics; Mechanics of solids; Nano-mechanics; Models of plates and shells in ophthalmology

Selected Publications:

Books in Russian:

S.M. Bauer, A.L. Smirnov, P.E. Tovstik, S.B.Filippov Asymptotic methods in examples and problems. St. Petersburg Univ. (1997), 276 p

S.M. Bauer, B.A. Zimin, P.E. Tovstik, S.B.Filippov The simplest shell and plate models in ophthalmology. St. Petersburg Univ. (2000), 92 p

S.M. Bauer, A.L. Smirnov, P.E. Tovstik, S.B.Filippov Asymptotic methods in mechanics of rigid body Regular and chaotic dynamics (2007), 356 p

D.R. Merkin, F.F. Afagh, S.M. Bauer and A.L. Smirnov, "Problems in theory of stability", St. Petersburg University Press, 2000

Book in English:

Svetlana M. Bauer, Sergei B. Filippov, Andrei L. Smirnov, Petr E. Tostik and Rémi Vaillancourt, mptotic Methods in Mechanics of Solids, International Series of Numerical Mathematics, Vol. 167, AsyBirkhäuser Basel, 2015, 325 pages

Journal Articles, etc.:

S.M. Bauer, S.B. Filippov, A.L. Smirnov, P.E. Tovstik, Asymptotic Methods in Mechanics with Application to Thin Shells and Plates, Asymptotic Methods in Mechanics. CRM Proceeding and Lecture Notes. Amer. Math. Soc., Providence 1993, p. 3-141

S.M. Bauer, S.B. Filippov, A.L. Mayboroda, A.L. Smirnov, I.Yu. Teterin, Buckling of thin cylindrical shells and shells of negative Gaussian curvature, Asymptotic Methods in Mechanics. CRM Proceeding and Lecture Notes. Amer. Math. Soc., Providence 1993, p.153-162

Svetlana M. Bauer, Eva B. Voronkova and Andrei L. Smirnov, "Application of non-classical shell theories for free vibration analysis of annular plates", Procedia Engineering, Vol. 199, pp 98-103, 2017

Bauer S.M.,Tovstik P.E., Kachanov A.B. On the stability of the eye shell under encircling band. Technische Mechanik, 1995,H.3, B.15, p.183-190

S.M. Bauer, P.E. Tovstik Buckling of Spherical Shells under Concentrated Load and Internal Pressure Technische Mechanik, Band 18, Heft 2,1998 p. 135-139

S.M. Bauer, O.G. Klets and N.F. Morozov, Behavior of transversally isotropic cylindrical shells under dynamic application of radial pressure Mechanics of Solids, Volume: 43, Number: 4, 2008, p.539-544

Svetlana M. Bauer and Eva B Voronkova, “On the unsymmetrical buckling of the nonuniform orthotropic circular plates”, Numerical Analysis and its Applications (NAA), Vol. 8236 of the series Lecture notes in Computer Science, pp 198-205, 5th International Conference, NAA2012, Lozenetz, Bulgaria, June 15-20, 2012

S. Bauer, E. Voronkova, K. Ignateva, Unsymmetric equilibrium states of inhomogeneous circular plates under normal pressure, Shell Structures: Theory and Applications, Volume 3, Proceedings of the 10th SSTA conference, Gdansk, Poland, 16-18 October 2013, 2014 p.171-174

Bauer S., Kashtanova S., Morozov N., Semenov B., Stability of a Nanoscale-Thickness Plate Weakened by a Circular Hole, ISSN 1028_3358, Doklady Physics, 2014, Vol. 59, No. 9, pp. 416–418. Pleiades Publishing, Ltd., 2014. p.416-418

Bauer S.M., Voronkova E. B., Models of Shells and Plates in the problems of Ophthalmology, ISSN 1063_4541, Vestnik St. Petersburg University. Mathematics, 2014, Vol. 47, No. 3 pp. 123–139

Bauer S.M., Voronkova E. B., Nonclassical Shell Theories in Ocular Biomechanics, In “Shell and Membrane Theories in Mechanics and Biology From Macro to Nanoscale Structures”, Altenbach H, Mikhasev G. (eds), 2015, XI, 321 p, Springer, Hardcover, ISBN: 978-3-319-02534-6 p.81-98

S.M. Bauer and E.B. Voronkova On natural frequencies of transversally isotropic circular plates, Vestnik of St. Petersburg University: Mathematics. July 2016, Volume 49, Issue 1, p.77-80.

Bauer S., Kashtanova S., Morozov N., Semenov B, Stability Loss in an Infinite Plate with a circular inclusion under Uniaxial Tension, Mechanics, Vestnik St. Petersburg University: Mathematics, 2017, Volume 50, Issue 2 p 161-165

Svetlana M. Bauer, Eva B. Voronkova and Andrei L. Smirnov, “Application of non-classical shell theories for free vibration analysis of annular plates”, Procedia Engineering, Vol. 199, pp 98-103, 2017

Svetlana M. Bauer, Stanislava V. Kashtanova, Nikita F. Morozov, Boris N. Semenov, The Stability of the Plates with Circular Inclusions under Tension, Generalized Models and Non-classical Approaches in Complex Materials v.1, Advanced Structured Materials, Volume 89, Ch.4, 2018 p.61-68