Boris Z Margolin

List of Publications by Year in Descending Order

100 papers	631 citations	15 h-index	21 g-index
104 ext. papers	657 ext. citations	1.3 avg, IF	3.59 L-index

#	Paper	IF	Citations
100	On the link of the embrittlement mechanisms and microcrack nucleation and propagation properties for RPV steels. Part I. Materials, study strategy and deformation properties. *Engineering Fracture Mechanics*, **2022**, 108400	4.2	
99	On the link of the embrittlement mechanisms and microcrack nucleation and propagation properties for RPV steels. Part II. Fracture properties and modelling. *Engineering Fracture Mechanics*, **2022**, 270, 108556	4.2	
98	Mechanisms of plastic deformation and fracture of austenitic chromium-nickel steel irradiated during 45 years in WWER-440. *Journal of Nuclear Materials*, **2021**, 549, 152911	3.3	5
97	On the Modelling of Thermal Aging through Neutron Irradiation and Annealing. *Advances in Materials Science and Engineering*, **2018**, 2018, 1-9	1.5	5
96	Physical and mechanical modeling and prediction of fracture strain and fracture toughness of irradiated austenitic steels. *Engineering Failure Analysis*, **2015**, 47, 283-298	3.2	2
95	Physical and mechanical modelling of neutron irradiation effect on ductile fracture. Part 1. Prediction of fracture strain and fracture toughness of austenitic steels. *Journal of Nuclear Materials*, **2014**, 452, 595-606	3.3	15
94	Effect of neutron irradiation on tensile properties of materials for pressure vessel internals of WWER type reactors. *Journal of Nuclear Materials*, **2014**, 444, 373-384	3.3	23
93	On the nature of drastic strength reduction of austenitic steels during irradiation-induced swelling. *Strength of Materials*, **2013**, 45, 257-270	0.6	
92	A Physical-Mechanical Model of Ductile Fracture in Irradiated Austenitic Steels. *Strength of Materials*, **2013**, 45, 125-143	0.6	8
91	Analysis of a link of embrittlement mechanisms and neutron flux effect as applied to reactor pressure vessel materials of WWER. *Journal of Nuclear Materials*, **2013**, 434, 347-356	3.3	22
90	Approaches to Substantiated Service Life Extension for BN Reactors. *Strength of Materials*, **2013**, 45, 442-447	0.6	
89	Analysis of Relationship Between the Radiation Embrittlement Mechanisms and the Influence of Neutron Flux in Respect of WWER Reactor Pressure Vessel Materials. *Strength of Materials*, **2013**, 45, 406-423	0.6	2
88	Radiation embrittlement modelling in multi-scale approach to brittle fracture of RPV steels. *International Journal of Fracture*, **2013**, 179, 87-108	2.3	38
87	Fracture toughness prediction for highly irradiated RPV materials: From test results to RPV integrity assessment. *Journal of Nuclear Materials*, **2013**, 432, 313-322	3.3	8
86	Analysis of embrittlement of WWER-1000 RPV materials. *International Journal of Pressure Vessels and Piping*, **2012**, 89, 178-186	2.4	30
85	TAREG 2.01/00 project, Validation of neutron embrittlement for VVER 1000 and 440/213 RPVs, with emphasis on integrity assessment *Progress in Nuclear Energy*, **2012**, 58, 52-57	2.3	7
84	Analysis of the influence of type of stress state on radiation swelling and radiation creep of austenitic steels. *Strength of Materials*, **2012**, 44, 227-240	0.6	21

83	A study of crack propagation in austenitic steels under creep conditions including the influence of thermal pre-ageing. *Strength of Materials*, **2012**, 44, 585-599	0.6	
82	Special features of calculation of C* -integral in thermomechanical loading of structural elements. *Strength of Materials*, **2012**, 44, 347-358	0.6	
81	A method of strength assessment of WWER reactor internals by the criterion of stress corrosion cracking in irradiated austenitic steels. *Strength of Materials*, **2012**, 44, 115-128	0.6	11
80	A comparative analysis of radiation-thermal forming for reflectors of reactors BN-600 and BN-800 by results of numerical simulation. *Journal of Machinery Manufacture and Reliability*, **2011**, 40, 585-591	0.6	1
79	A new approach to description of in-service embrittlement of WWER-1000 reactor pressure vessel materials. *Strength of Materials*, **2010**, 42, 2-16	0.6	6
78	Embrittlement and fracture toughness of highly irradiated austenitic steels for vessel internals of WWER type reactors. Part 2. Relation between irradiation swelling and irradiation embrittlement. Physical and mechanical behavior. *Strength of Materials*, **2010**, 42, 144-153	0.6	25
77	Embrittlement and fracture toughness of highly irradiated austenitic steels for vessel internals of WWER type reactors. Part 3. Analysis of crack propagation conditions. *Strength of Materials*, **2010**, 42, 258-271	0.6	2
76	Brittle fracture local criterion and radiation embrittlement of reactor pressure vessel steels. *Strength of Materials*, **2010**, 42, 506-527	0.6	4
75	Analysis of applicability of small-sized specimens to prediction of temperature dependence of fracture toughness. *Strength of Materials*, **2009**, 41, 119-134	0.6	6
74	A study of suitability of various criteria for fracture toughness prediction on small-sized specimens. *Strength of Materials*, **2009**, 41, 345-355	0.6	4
73	Embrittlement and fracture toughness of highly irradiated austenitic steels for vessel internals of WWER type reactors. Part 1. Relation between irradiation swelling and irradiation embrittlement. Experimental results. *Strength of Materials*, **2009**, 41, 593-602	0.6	16
72	Prediction of Creep-Rupture Properties for Austenitic Steels Undergone Neutron Irradiation **2009**,		1
71	Structural Integrity Assessment of WWER Internals on Stress Corrosion Cracking Criterion **2009**,		2
70	The Relationship of Radiation Embrittlement and Swelling for Austenitic Steels for WWER Internals **2009**,		4
69	Modification of Pre-Cracked Charpy Specimens for Surveillance Specimen Programs **2009**,		2
68	On some criterial problems of fatigue crack initiation and growth in polycrystals. *Strength of Materials*, **2008**, 40, 397-410	0.6	1
67	A method for predicting fracture resistance of material in cyclic loading under viscoelastoplastic deformation and neutron irradiation conditions. *Strength of Materials*, **2008**, 40, 601-614	0.6	7
66	Prometey local approach to brittle fracture: Development and application. *Engineering Fracture Mechanics*, **2008**, 75, 3483-3498	4.2	43

65	Physical and Mechanical Aspects of Radiation Embrittlement of RPV Steels **2008**,		4
64	Development of Prometey local approach and analysis of physical and mechanical aspects of brittle fracture of RPV steels. *International Journal of Pressure Vessels and Piping*, **2007**, 84, 320-336	2.4	16
63	Application of a new cleavage fracture criterion for fracture toughness prediction for RPV steels. *Fatigue and Fracture of Engineering Materials and Structures*, **2006**, 29, 697-713	3	21
62	Modeling for fracture in materials under long-term static creep loading and neutron irradiation. Part 1. A physico-mechanical model. *Strength of Materials*, **2006**, 38, 221-233	0.6	11
61	Modeling for fracture in materials under long-term static creep loading and neutron irradiation. Part 2. Prediction of creep rupture strength for austenitic materials. *Strength of Materials*, **2006**, 38, 449-457	0.6	11
60	Modeling for fracture in materials under long-term static creep loading and neutron irradiation. Part 3. Crack growth rate prediction for austenitic materials. *Strength of Materials*, **2006**, 38, 565-574	0.6	8
59	Prediction of the dependence of KJC(T) on neutron fluence for RPV steels on the basis of the Unified Curve concept. *International Journal of Pressure Vessels and Piping*, **2005**, 82, 679-686	2.4	11
58	Probabilistic definition of local criterion for brittle fracture under complex thermomechanical loading. *Strength of Materials*, **2005**, 37, 16-29	0.6	
57	Prediction of Temperature Dependence of Fracture Toughness as a Function of Neutron Fluence for Pressure-Vessel Steels by Using the Unified Curve Method. *Strength of Materials*, **2005**, 37, 243-253	0.6	
56	Analysis of structure integrity of RPV on the basis of brittle fracture criterion: new approaches. *International Journal of Pressure Vessels and Piping*, **2004**, 81, 651-656	2.4	11
55	Prediction of brittle fracture of RPV steels under complex loading on the basis of a local probabilistic approach. *International Journal of Pressure Vessels and Piping*, **2004**, 81, 949-959	2.4	9
54	Investigation of nanostructure of reactor pressure vessel steel with different degree of embrittlement. *Physica B: Condensed Matter*, **2004**, 350, E471-E474	2.8	1
53	Neutron Embrittlement of VVER 1000 and 440/213 RPVs: Learning From EC Projects on RPV Integrity **2004**, 77		
52	Investigation of Residual Stresses Caused by Welding, Cladding and Tempering of Reactor Pressure Vessels **2003**, 3		
51	A New Engineering Method for Prediction of Fracture Toughness Temperature Dependence for Pressure-Vessel Steels. *Strength of Materials*, **2003**, 35, 440-457	0.6	6
50	Temperature Dependence of Brittle Fracture Toughness of Reactor Pressure-Vessel Steels upon Ductile Crack Growth. *Strength of Materials*, **2003**, 35, 14-23	0.6	1
49	A new engineering method for prediction of the fracture toughness temperature dependence for RPV steels. *International Journal of Pressure Vessels and Piping*, **2003**, 80, 817-829	2.4	34
48	The effect of ductile crack growth on the temperature dependence of cleavage fracture toughness for a RPV steel with various degrees of embrittlement. *International Journal of Pressure Vessels and Piping*, **2003**, 80, 285-296	2.4	13

47	Local Approach of Fracture in the Ductile Regime and Application to VVER Materials **2002**, 413		
46	Fracture toughness predictions for a reactor pressure vessel steel in the initial and highly embrittled states with the Master Curve approach and a probabilistic model. *International Journal of Pressure Vessels and Piping*, **2002**, 79, 219-231	2.4	23
45	Prediction of Fracture Toughness of Reactor Pressure-Vessel Steels Using the "Master Curve" Concept and Probabilistic Model. *Strength of Materials*, **2002**, 34, 1-11	0.6	4
44	Modeling of Ductile Crack Growth in Reactor Pressure-Vessel Steels and Determination of JR Curves. *Strength of Materials*, **2002**, 34, 120-130	0.6	2
43	Application of Local Approach Concept of Cleavage Fracture to VVER Materials **2002**, 113		8
42	Cleavage fracture toughness for 3Cr-Ni-Mo-V reactor pressure vessel steel: theoretical prediction and experimental investigation. *International Journal of Pressure Vessels and Piping*, **2001**, 78, 429-441	2.4	5
41	Simulation of JR-curves for reactor pressure vessels steels on the basis of a ductile fracture model. *International Journal of Pressure Vessels and Piping*, **2001**, 78, 715-725	2.4	14
40	Prediction of the Brittle Fracture Toughness of Neutron-Irradiated Reactor Pressure Vessel Steels. Part 2. *Strength of Materials*, **2001**, 33, 201-206	0.6	
39	Prediction of the Brittle Fracture Toughness of Neutron-Irradiated Reactor Pressure-Vessel Steels. Part 1. *Strength of Materials*, **2001**, 33, 95-105	0.6	
38	Prediction of Ductile Fracture Toughness for Neutron-Irradiated Reactor Pressure-Vessel Steels. Part 1. *Strength of Materials*, **2001**, 33, 318-324	0.6	
37	Prediction of Ductile Fracture Toughness for Neutron-Irradiated Reactor Pressure-Vessel Steels. Part 2. *Strength of Materials*, **2001**, 33, 407-415	0.6	
36	Determination of residual stress and strain fields caused by cladding and tempering of reactor pressure vessels. *International Journal of Pressure Vessels and Piping*, **2000**, 77, 723-735	2.4	22
35	Modeling for ductile-to-brittle transition under ductile crack growth for reactor pressure vessel steels. *International Journal of Pressure Vessels and Piping*, **1999**, 76, 309-317	2.4	4
34	Radiation embrittlement modelling for reactor pressure vessel steels: I. Brittle fracture toughness prediction. *International Journal of Pressure Vessels and Piping*, **1999**, 76, 715-729	2.4	25
33	Radiation embrittlement modelling for reactor pressure vessel steels: II. Ductile fracture toughness prediction. *International Journal of Pressure Vessels and Piping*, **1999**, 76, 731-740	2.4	5
32	Lifetime prediction for intercrystalline fracture under cyclic loading with various strain rates. *International Journal of Fatigue*, **1999**, 21, 497-505	5	4
31	Probabilistic prediction of the crack resistance of nuclear pressure vessel steels on the basis of a local approach. Part 1. *Strength of Materials*, **1999**, 31, 1-12	0.6	1
30	Prediction of ductile-brittle transition for ductile crack growth in reactor pressure-vessel steels. *Strength of Materials*, **1999**, 31, 525-538	0.6	

29	Probabilistic prediction of the crack resistance of nuclear pressure-vessel steels on the basis of a local approach. Part 2. *Strength of Materials*, **1999**, 31, 107-119	0.6	3
28	Analysis of the effect of biaxial loading on the fracture toughness of reactor pressure-vessel steels. *Strength of Materials*, **1999**, 31, 433-447	0.6	2
27	Analysis of biaxial loading effect on fracture toughness of reactor pressure vessel steels. *International Journal of Pressure Vessels and Piping*, **1998**, 75, 589-601	2.4	15
26	The use of theT *-integral to simulate subcritical crack growth taking into account the evolution of pores in the material. *Strength of Materials*, **1997**, 29, 209-219	0.6	
25	Preliminary compression of a material as a factor in changing the brittle fracture mechanism for BCC metals. *Strength of Materials*, **1996**, 28, 251-261	0.6	4
24	Stress-strain curves of polycrystals: Analysis of hardening and softening. *Strength of Materials*, **1995** , 27, 580-591	0.6	
23	Analysis of certain problems of the brittle fracture of bcc metals. *Strength of Materials*, **1994**, 26, 477-491	0.6	
22	Features of the deformation and failure of welded joints with pulsed loading. *Strength of Materials*, **1993**, 25, 330-333	0.6	
21	Creep and failure of structurally stable materials with nonstationary loading and all-round compression. *Strength of Materials*, **1993**, 25, 86-95	0.6	1
20	Computational analysis of crack development during ductile failure. *Strength of Materials*, **1992**, 24, 577-586	0.6	
19	Simulation of the condition of plane sections in the finite element method. *Strength of Materials*, **1992**, 24, 362-365	0.6	
18	Brittle fracture criterion: Structural mechanics approach. *Strength of Materials*, **1992**, 24, 115-131	0.6	2
17	Effect of cyclic deformation on the resistance of a material to brittle failure. *Strength of Materials*, **1991**, 23, 14-23	0.6	
16	Effect of strain rate on the nature of failure in static and cyclic loading. Report 1. Formulation of general approaches. *Strength of Materials*, **1991**, 23, 107-121	0.6	2
15	Influence of strain rate on the nature of failure under prolonged static and cyclical loads. 2. Examples of calculation. *Strength of Materials*, **1991**, 23, 876-883	0.6	1
14	Physicomechanical model of creep-induced fracture. *Strength of Materials*, **1990**, 22, 1409-1418	0.6	
13	Solving a dynamic elastoplastic problem of fracture mechanics by the finite element method. 1. The dynamic elastoplastic problem. *Strength of Materials*, **1990**, 22, 935-943	0.6	1
12	Propagation of fatigue cracks in mixed loading. *Strength of Materials*, **1990**, 22, 309-316	0.6	

11	Analysis of the origin and development of fatigue failure in pearlitic steels. *Strength of Materials*, **1990**, 22, 478-490	0.6	1
10	Several physicomechanical approaches to the analysis of macroscopic failure. 2. Ductile failure. *Strength of Materials*, **1989**, 21, 965-974	0.6	
9	An analysis of the conditions of brittle fracture origin. *Strength of Materials*, **1989**, 21, 1439-1445	0.6	
8	Physicomechanical approaches to an analysis of macroscopic failure criteria. Report 3. Brittle failure. *Strength of Materials*, **1989**, 21, 841-852	0.6	1
7	Physical-mechanical approaches to the analysis of macroscopic failure. Report 1. Fatigue failure. *Strength of Materials*, **1989**, 21, 703-712	0.6	
6	Analysis of special features of deformation of the material at the crack tip and of criteria of fatigue fracture propagation with an allowance made for structural parameters. Report 1. *Strength of Materials*, **1988**, 20, 992-1000	0.6	
5	Analysis of special features of deformation of the material at the crack tip and of criteria of fatigue fracture propagation with an allowance made for structural parameters. Report 2. *Strength of Materials*, **1988**, 20, 1001-1009	0.6	
4	A mechanical model of fatigue crack propagation. Report 1. *Strength of Materials*, **1985**, 17, 1037-1043	0.6	
3	A mechanical model of fatigue crack propagation. Report 2. *Strength of Materials*, **1985**, 17, 1044-1049	0.6	
2	Propagation of fatigue cracks in tee welded joints taking into account welding stresses. *Strength of Materials*, **1983**, 15, 1596-1600	0.6	
1	Determination of the crack path and intensity of elastic energy released during cyclic loading taking account of welding stresses. *Strength of Materials*, **1983**, 15, 1322-1328	0.6	2