Boris Z Margolin

List of Publications by Citations

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Prometey local approach to brittle fracture: Development and application. *Engineering Fracture Mechanics*, **2008**, 75, 3483-3498	4.2	43
99	Radiation embrittlement modelling in multi-scale approach to brittle fracture of RPV steels. *International Journal of Fracture*, **2013**, 179, 87-108	2.3	38
98	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
97	Analysis of embrittlement of WWER-1000 RPV materials. *International Journal of Pressure Vessels and Piping*, **2012**, 89, 178-186	2.4	30
96	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
95	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
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	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
92	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
91	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
90	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
89	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
88	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
87	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
86	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
85	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
84	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

83	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
82	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
81	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
80	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
79	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
78	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
77	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
76	A Physical-Mechanical Model of Ductile Fracture in Irradiated Austenitic Steels. *Strength of Materials*, **2013**, 45, 125-143	0.6	8
75	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
74	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
73	Application of Local Approach Concept of Cleavage Fracture to VVER Materials **2002**, 113		8
72	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
71	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
70	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
69	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
68	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
67	Cleavage fracture toughness for 3CrNiMoV reactor pressure vessel steel: theoretical prediction and experimental investigation. *International Journal of Pressure Vessels and Piping*, **2001**, 78, 429-441	2.4	5
66	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

65	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
64	On the Modelling of Thermal Aging through Neutron Irradiation and Annealing. *Advances in Materials Science and Engineering*, **2018**, 2018, 1-9	1.5	5
63	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
62	The Relationship of Radiation Embrittlement and Swelling for Austenitic Steels for WWER Internals **2009**,		4
61	Brittle fracture local criterion and radiation embrittlement of reactor pressure vessel steels. *Strength of Materials*, **2010**, 42, 506-527	0.6	4
60	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
59	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
58	Lifetime prediction for intercrystalline fracture under cyclic loading with various strain rates. *International Journal of Fatigue*, **1999**, 21, 497-505	5	4
57	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
56	Physical and Mechanical Aspects of Radiation Embrittlement of RPV Steels **2008**,		4
55	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
54	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
53	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
52	Structural Integrity Assessment of WWER Internals on Stress Corrosion Cracking Criterion **2009**,		2
51	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
50	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
49	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
48	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

47	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
46	Modification of Pre-Cracked Charpy Specimens for Surveillance Specimen Programs **2009**,		2
45	Brittle fracture criterion: Structural mechanics approach. *Strength of Materials*, **1992**, 24, 115-131	0.6	2
44	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
43	Prediction of Creep-Rupture Properties for Austenitic Steels Undergone Neutron Irradiation **2009**,		1
42	On some criterial problems of fatigue crack initiation and growth in polycrystals. *Strength of Materials*, **2008**, 40, 397-410	0.6	1
41	Investigation of nanostructure of reactor pressure vessel steel with different degree of embrittlement. *Physica B: Condensed Matter*, **2004**, 350, E471-E474	2.8	1
40	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
39	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
38	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
37	Creep and failure of structurally stable materials with nonstationary loading and all-round compression. *Strength of Materials*, **1993**, 25, 86-95	0.6	1
36	Physicomechanical approaches to an analysis of macroscopic failure criteria. Report 3. Brittle failure. *Strength of Materials*, **1989**, 21, 841-852	0.6	1
35	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
34	Analysis of the origin and development of fatigue failure in pearlitic steels. *Strength of Materials*, **1990**, 22, 478-490	0.6	1
33	On the nature of drastic strength reduction of austenitic steels during irradiation-induced swelling. *Strength of Materials*, **2013**, 45, 257-270	0.6	
32	Approaches to Substantiated Service Life Extension for BN Reactors. *Strength of Materials*, **2013**, 45, 442-447	0.6	
31	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	
30	Special features of calculation of C* -integral in thermomechanical loading of structural elements. *Strength of Materials*, **2012**, 44, 347-358	0.6	

29	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
28	Investigation of Residual Stresses Caused by Welding, Cladding and Tempering of Reactor Pressure Vessels **2003**, 3	
27	Local Approach of Fracture in the Ductile Regime and Application to VVER Materials **2002**, 413	
26	Neutron Embrittlement of VVER 1000 and 440/213 RPVs: Learning From EC Projects on RPV Integrity **2004**, 77	
25	Probabilistic definition of local criterion for brittle fracture under complex thermomechanical loading. *Strength of Materials*, **2005**, 37, 16-29	0.6
24	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
23	Prediction of the Brittle Fracture Toughness of Neutron-Irradiated Reactor Pressure Vessel Steels. Part 2. *Strength of Materials*, **2001**, 33, 201-206	0.6
22	Prediction of the Brittle Fracture Toughness of Neutron-Irradiated Reactor Pressure-Vessel Steels. Part 1. *Strength of Materials*, **2001**, 33, 95-105	0.6
21	Prediction of Ductile Fracture Toughness for Neutron-Irradiated Reactor Pressure-Vessel Steels. Part 1. *Strength of Materials*, **2001**, 33, 318-324	0.6
20	Prediction of Ductile Fracture Toughness for Neutron-Irradiated Reactor Pressure-Vessel Steels. Part 2. *Strength of Materials*, **2001**, 33, 407-415	0.6
19	Prediction of ductile-brittle transition for ductile crack growth in reactor pressure-vessel steels. *Strength of Materials*, **1999**, 31, 525-538	0.6
18	Stress-strain curves of polycrystals: Analysis of hardening and softening. *Strength of Materials*, **1995** , 27, 580-591	0.6
17	Analysis of certain problems of the brittle fracture of bcc metals. *Strength of Materials*, **1994**, 26, 477-491	0.6
16	Effect of cyclic deformation on the resistance of a material to brittle failure. *Strength of Materials*, **1991**, 23, 14-23	0.6
15	Computational analysis of crack development during ductile failure. *Strength of Materials*, **1992**, 24, 577-586	0.6
14	Simulation of the condition of plane sections in the finite element method. *Strength of Materials*, **1992**, 24, 362-365	0.6
13	Features of the deformation and failure of welded joints with pulsed loading. *Strength of Materials*, **1993**, 25, 330-333	0.6
12	Several physicomechanical approaches to the analysis of macroscopic failure. 2. Ductile failure. *Strength of Materials*, **1989**, 21, 965-974	0.6

11	An analysis of the conditions of brittle fracture origin. *Strength of Materials*, **1989**, 21, 1439-1445	0.6
10	Physical-mechanical approaches to the analysis of macroscopic failure. Report 1. Fatigue failure. *Strength of Materials*, **1989**, 21, 703-712	0.6
9	Physicomechanical model of creep-induced fracture. *Strength of Materials*, **1990**, 22, 1409-1418	0.6
8	Propagation of fatigue cracks in mixed loading. *Strength of Materials*, **1990**, 22, 309-316	0.6
7	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
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 2. *Strength of Materials*, **1988**, 20, 1001-1009	0.6
5	A mechanical model of fatigue crack propagation. Report 1. *Strength of Materials*, **1985**, 17, 1037-1043	0.6
4	A mechanical model of fatigue crack propagation. Report 2. *Strength of Materials*, **1985**, 17, 1044-1049	0.6
3	Propagation of fatigue cracks in tee welded joints taking into account welding stresses. *Strength of Materials*, **1983**, 15, 1596-1600	0.6
2	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
1	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