

Søren Ehlers

List of Publications by Year in descending order

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127
papers

1,667
citations

331670

21
h-index

361022

35
g-index

128
all docs

128
docs citations

128
times ranked

1023
citing authors

#	ARTICLE	IF	CITATIONS
1	A framework for risk assessment for maritime transportation systems – A case study for open sea collisions involving RoPax vessels. Reliability Engineering and System Safety, 2014, 124, 142-157.	8.9	194
2	Risk of collision between service vessels and offshore wind turbines. Reliability Engineering and System Safety, 2013, 109, 18-31.	8.9	82
3	Strain and stress relation until fracture for finite element simulations of a thin circular plate. Thin-Walled Structures, 2010, 48, 1-8.	5.3	63
4	The influence of the material relation on the accuracy of collision simulations. Marine Structures, 2010, 23, 462-474.	3.8	60
5	Strain and stress relation for non-linear finite element simulations. Thin-Walled Structures, 2009, 47, 1203-1217.	5.3	55
6	Current status and future operational models for transit shipping along the Northern Sea Route. Marine Policy, 2018, 94, 53-60.	3.2	52
7	Impact scenario models for probabilistic risk-based design for ship – ship collision. Marine Structures, 2013, 33, 238-264.	3.8	47
8	Decision Support Framework for Exploiting Northern Sea Route Transport Opportunities. Ship Technology Research, 2012, 59, 34-42.	2.5	45
9	MARSTRUCT benchmark study on nonlinear FE simulation of an experiment of an indenter impact with a ship side-shell structure. Marine Structures, 2018, 59, 142-157.	3.8	44
10	Comparison of Natural Gas Combined Cycle Power Plants with Post Combustion and Oxyfuel Technology at Different CO2 Capture Rates. Energy Procedia, 2016, 86, 2-11.	1.8	40
11	Assessing the safety effects of cooperative intelligent transport systems: A bowtie analysis approach. Accident Analysis and Prevention, 2017, 99, 125-141.	5.7	36
12	Increased crashworthiness due to arctic conditions – The influence of sub-zero temperature. Marine Structures, 2012, 28, 86-100.	3.8	35
13	Optimization of crashworthy marine structures. Marine Structures, 2009, 22, 670-690.	3.8	33
14	On the Deterministic Prediction of Water Waves. Fluids, 2020, 5, 9.	1.7	32
15	Influence of the optical measurement technique and evaluation approach on the determination of local weld geometry parameters for different weld types. Welding in the World, Le Soudage Dans Le Monde, 2020, 64, 301-316.	2.5	30
16	Influence of bow design on ice breaking resistance. Ocean Engineering, 2016, 119, 217-232.	4.3	29
17	Fatigue strength of fillet-welded joints at subzero temperatures. Fatigue and Fracture of Engineering Materials and Structures, 2020, 43, 403-416.	3.4	29
18	Delay risk analysis of ship sailing the northern sea route. Ship Technology Research, 2015, 62, 26-35.	2.5	25

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19	Requirements for stress gradient-based fatigue assessment of notched structures according to theory of critical distance. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2020, 43, 1541-1554.	3.4	25
20	Semi-empirical level ice resistance prediction methods. <i>Ship Technology Research</i> , 2017, 64, 1-14.	2.5	24
21	Model scale ice " Part B: Numerical model. <i>Cold Regions Science and Technology</i> , 2013, 94, 53-60.	3.5	21
22	Application of local approaches to the assessment of fatigue test results obtained for welded joints at sub-zero temperatures. <i>International Journal of Fatigue</i> , 2020, 138, 105672.	5.7	21
23	Model-scale ice " Part A: Experiments. <i>Cold Regions Science and Technology</i> , 2013, 94, 74-81.	3.5	20
24	Optimizing integrated reference cases in the OCTAVIUS project. <i>International Journal of Greenhouse Gas Control</i> , 2016, 50, 23-36.	4.6	20
25	Establishing a common database of ice experiments and using machine learning to understand and predict ice behavior. <i>Cold Regions Science and Technology</i> , 2019, 162, 56-73.	3.5	20
26	A combined numerical and semi-analytical collision damage assessment procedure. <i>Marine Structures</i> , 2012, 28, 101-119.	3.8	19
27	An algorithm for statistical evaluation of weld toe geometries using laser triangulation. <i>International Journal of Fatigue</i> , 2021, 149, 106293.	5.7	19
28	Influence of pitting corrosion on the fatigue strength of offshore steel structures based on 3D surface scans. <i>International Journal of Fatigue</i> , 2022, 164, 107128.	5.7	19
29	Benchmarking and Comparing First and Second Generation Post Combustion CO2 Capture Technologies. <i>Energy Procedia</i> , 2014, 63, 27-44.	1.8	18
30	Assessment of the applicability of goal- and risk-based design on Arctic sea transport systems. <i>Ocean Engineering</i> , 2016, 128, 183-198.	4.3	18
31	Fatigue strength of PBF-LB/M and wrought 316L stainless steel: effect of post-treatment and cyclic mean stress. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2021, 44, 3077-3093.	3.4	18
32	Virtual prototyping for maritime crane design and operations. <i>Journal of Marine Science and Technology</i> , 2018, 23, 754-766.	2.9	15
33	A machine learning-based method for simulation of ship speed profile in a complex ice field. <i>Ships and Offshore Structures</i> , 2020, 15, 974-980.	1.9	15
34	Comparison of local fatigue assessment methods for high-quality butt-welded joints made of high-strength steel. <i>Forces in Mechanics</i> , 2022, 6, 100056.	2.8	15
35	Fatigue strength of high-strength steel after shipyard production process of plasma cutting, grinding, and sandblasting. <i>Welding in the World, Le Soudage Dans Le Monde</i> , 2018, 62, 1273-1284.	2.5	14
36	Extension of the strain energy density method for fatigue assessment of welded joints to sub-zero temperatures. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2020, 43, 2867-2882.	3.4	14

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37	Guidance for Material Selection Based on Static and Dynamic Mechanical Properties at Sub-Zero Temperatures. <i>Journal of Offshore Mechanics and Arctic Engineering</i> , 2021, 143, .	1.2	14
38	The Influence of model fidelity and uncertainties in the conceptual design of Arctic maritime transport systems. <i>Ship Technology Research</i> , 2017, 64, 40-64.	2.5	13
39	Heave and pitch motions of a ship in model ice: An experimental study on ship resistance and ice breaking pattern. <i>Cold Regions Science and Technology</i> , 2011, 68, 49-59.	3.5	12
40	Transient simulation of the propulsion machinery system operating in ice – Modeling approach. <i>Ocean Engineering</i> , 2016, 124, 437-449.	4.3	12
41	Transportation Risk Analysis Framework for Arctic Waters. , 2014, , .		11
42	Methodology to assess the floe size and distribution along a ship hull during model scale ice tests for self-propelled ships sailing ahead in level ice. <i>Ships and Offshore Structures</i> , 2017, 12, S100-S108.	1.9	11
43	An Object-Oriented Modeling Approach to Virtual Prototyping of Marine Operation Systems Based on Functional Mock-Up Interface Co-Simulation. <i>Journal of Offshore Mechanics and Arctic Engineering</i> , 2018, 140, .	1.2	11
44	Probability analysis of PIT distribution on corroded ballast tank. <i>Ocean Engineering</i> , 2021, 228, 108958.	4.3	11
45	Propeller torque load and propeller shaft torque response correlation during ice-propeller interaction. <i>Journal of Marine Science and Application</i> , 2017, 16, 1-9.	1.7	10
46	Oil spill damage: a collision scenario and financial liability estimations for the Northern Sea Route area. <i>Ship Technology Research</i> , 2020, 67, 148-164.	2.5	10
47	The ice extrusion test: a novel test setup for the investigation of ice-structure interaction – results and validation. <i>Ships and Offshore Structures</i> , 2020, 15, S1-S9.	1.9	10
48	Review of methods for the high-cycle fatigue strength assessment of steel structures subjected to sub-zero temperature. <i>Marine Structures</i> , 2022, 82, 103153.	3.8	10
49	A Finite Element Method-Based Potential Theory Approach for Optimal Ice Routing. <i>Journal of Offshore Mechanics and Arctic Engineering</i> , 2017, 139, .	1.2	9
50	Inverse modeling approach for transformation of propeller shaft angular deformation and velocity to propeller torque load. <i>Marine Structures</i> , 2019, 67, 102614.	3.8	9
51	Sub-Zero Temperature Fatigue Strength of Butt-Welded Normal and High-Strength Steel Joints for Ships and Offshore Structures in Arctic Regions. , 2020, , .		9
52	A Particle Swarm Algorithm-Based Optimization for High-Strength Steel Structures. <i>Journal of Ship Production and Design</i> , 2012, 28, .	0.4	9
53	Safety Considerations of Hydrogen Application in Shipping in Comparison to LNG. <i>Energies</i> , 2022, 15, 3250.	3.1	9
54	Statistical Characterization of Stress Concentrations along Butt Joint Weld Seams Using Deep Neural Networks. <i>Applied Sciences (Switzerland)</i> , 2022, 12, 6089.	2.5	9

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55	A review of collision and grounding damage assessment methods. <i>Marine Systems and Ocean Technology</i> , 2011, 6, 5-15.	1.0	8
56	A Decision-based Design Approach for Ships Operating in Open Water and Ice. <i>Journal of Ship Production and Design</i> , 2015, 31, 209-219.	0.4	8
57	A comprehensive approach to scenario-based risk management for Arctic waters. <i>Ship Technology Research</i> , 2022, 69, 129-157.	2.5	8
58	Experimental and numerical analysis of a membrane cargo containment system for liquefied natural gas. <i>Ships and Offshore Structures</i> , 2017, 12, S257-S267.	1.9	7
59	Investigation on semi-empirical coefficients and exponents of a resistance prediction method for ships sailing ahead in level ice. <i>Ships and Offshore Structures</i> , 2019, 14, 161-170.	1.9	7
60	Relation between the Fatigue and Fracture Ductile-Brittle Transition in S500 Welded Steel Joints. <i>Metals</i> , 2022, 12, 385.	2.3	7
61	Predicting compressive strength and behavior of ice and analyzing feature importance with explainable machine learning models. <i>Ocean Engineering</i> , 2022, 255, 111396.	4.3	7
62	A Response Comparison of a Stiffened Panel Subjected to Rule-Based and Measured Ice Loads. , 2014, , .		6
63	Comparison of fatigue strength of post-weld improved high strength steel joints and notched base material specimens. <i>Ships and Offshore Structures</i> , 2018, 13, 47-55.	1.9	6
64	A method for estimation of equivalent-volume ice thickness based on WMO egg code in absence of ridging parameters. <i>Cold Regions Science and Technology</i> , 2018, 155, 381-395.	3.5	6
65	Bonded window panes in strength analysis of ship structures. <i>Ship Technology Research</i> , 2018, 65, 102-121.	2.5	6
66	Challenges With Oil Spill Risk Assessment in Arctic Regions: Shipping Along the Northern Sea Route. , 2014, , .		5
67	Equivalent ice thickness in ship ice transit simulations: overview of existing definitions and proposition of an improved one. <i>Ship Technology Research</i> , 2020, 67, 84-100.	2.5	5
68	Development of environmental contours for first-year ice ridge statistics. <i>Structural Safety</i> , 2020, 87, 101996.	5.3	5
69	Fatigue assessment of welded joints at sub-zero temperatures by means of stress averaging approach. <i>Ships and Offshore Structures</i> , 2021, 16, 216-224.	1.9	5
70	A simulation approach for local ice loads on ship structures in level ice. <i>Marine Structures</i> , 2022, 81, 103117.	3.8	5
71	A Multi-Objective Optimisation-Based Structural Design Procedure for the Concept Stage â€œ A Chemical Product Tanker Case Study. <i>Ship Technology Research</i> , 2010, 57, 182-196.	2.5	4
72	A procedure to Assess the Damage of a Grounded Ship: A Full-Scale Validation Case Study. <i>Ship Technology Research</i> , 2011, 58, 90-99.	2.5	4

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73	Modelling risk of a collision between a LNG tanker and a harbour tug. Marine Systems and Ocean Technology, 2012, 7, 3-13.	1.0	4
74	Numerical Simulation of an Ice Beam in Four-Point Bending Using SPH. , 2014, , .		4
75	Scenario Based Risk Management for Arctic Shipping and Operations. , 2014, , .		4
76	Development of an Approach Towards Mission-Based Design of Arctic Maritime Transport Systems. , 2014, , .		4
77	Energetic Evaluation of Different Flow Sheet Modifications of Post-Combustion CO2 Capture Plant at Coal and Natural Gas Fired Power Plant for a Generic Improved Solvent. Energy Procedia, 2014, 63, 1029-1039.	1.8	4
78	Probabilistic Design Load Method for the Northern Sea Route. , 2015, , .		4
79	Parametric structural analysis for a platform supply vessel at conceptual design phase "a sensitivity study via design of experiments. Ships and Offshore Structures, 2017, 12, S209-S220.	1.9	4
80	Towards mission-based structural design for arctic regions. Ship Technology Research, 2017, 64, 115-128.	2.5	4
81	The influence of the bow design on structural response due to ice loading. Ships and Offshore Structures, 2018, 13, 302-311.	1.9	4
82	Ice Pressure Prediction Based on the Probabilistic Method for Ice-Going Vessels in Inland Waterways. Journal of Offshore Mechanics and Arctic Engineering, 2019, 141, .	1.2	4
83	Model scale investigation of aspects influencing the ice resistance of ships sailing ahead in level ice. Ship Technology Research, 2020, 67, 26-36.	2.5	4
84	Fatigue strength of normal and high strength steel joints improved by weld profiling. Engineering Structures, 2021, 246, 113030.	5.3	4
85	An Assessment Procedure of the Crashworthiness of an LNG Tanker Side Structure. Ship Technology Research, 2010, 57, 108-119.	2.5	3
86	Collision consequence estimation model for chemical tankers. Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment, 2013, 227, 98-106.	0.5	3
87	Optimization-based material parameter identification for the numerical simulation of sea ice in four-point bending. Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment, 2014, 228, 70-80.	0.5	3
88	On the Scalability of Model-Scale Ice Experiments. Journal of Offshore Mechanics and Arctic Engineering, 2015, 137, .	1.2	3
89	Numerical Prediction of Ship-Ice Interaction: A Project Presentation. , 2017, , .		3
90	A simplified welding simulation approach used to design a fatigue test specimen containing residual stresses. Ship Technology Research, 2019, 66, 22-37.	2.5	3

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91	The measurement accuracy of instrumented ship structures under local ice loads using strain gauges. Marine Structures, 2021, 76, 102919.	3.8	3
92	Investigation of Nonlinear Wave-Ice Interaction Using Parameter Study and Numerical Simulation. Journal of Offshore Mechanics and Arctic Engineering, 2020, 142, .	1.2	3
93	On the Scalability of Model-Scale Ice Experiments. , 2014, , .		2
94	A Fleet Efficiency Factor for fleet size and mix problems using particle swarm optimisation. Ship Technology Research, 2019, 66, 106-116.	2.5	2
95	Development of a design load patch for the consideration of ice loads. Ships and Offshore Structures, 2020, 15, S20-S28.	1.9	2
96	A Particle Swarm Algorithm-Based Optimization for High-Strength Steel Structures. Journal of Ship Production and Design, 2012, 28, 1-9.	0.4	2
97	Ice Model Tests in Context of the Investment Value of an Offshore Vessel. , 2012, , .		2
98	Numerical analysis of the correlation between the pitting severity and surface roughness of corroded specimens. Ships and Offshore Structures, 2022, 17, 2699-2714.	1.9	2
99	Analysis of the scatter in fatigue life testing of thick thermal cut plate edges. Ships and Offshore Structures, 0, , 1-14.	1.9	2
100	Combining H-Adaptivity with the Element Splitting Method for Crack Simulation in Large Structures. Materials, 2022, 15, 240.	2.9	2
101	Hydroelastic potential flow solver suited for nonlinear wave dynamics in ice-covered waters. Ocean Engineering, 2022, 259, 111756.	4.3	2
102	Iceberg Shape Sensitivity in Ship Impact Assessment in View of Existing Material Models. , 2012, , .		1
103	Ship Performance Assessment for Arctic Transport Routes. , 2013, , .		1
104	A Numerical Model to Initiate the Icebreaking Pattern in Level Ice. , 2014, , .		1
105	Simulation-Based Analysis of Arctic LNG Transport Capacity, Cost and System Integrity. , 2014, , .		1
106	Ice Condition Database for the Arctic Sea. , 2014, , .		1
107	Shaft Response as a Propulsion Machinery Design Load. , 2014, , .		1
108	Theoretical Investigation on Ice Resistance Prediction Methods for Ships in Level Ice. , 2014, , .		1

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109	Assessment of Helicopter Emergency Response Capacity in the Barents Sea. , 2016, , .		1
110	A Rubber Bag for Liquid Cargo to Improve Ship Collision Resistance. Journal of Offshore Mechanics and Arctic Engineering, 2018, 140, .	1.2	1
111	Bowtie Analysis without Expert Acquisition for Safety Effect Assessments of Cooperative Intelligent Transport Systems. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering, 2018, 4, 04018036.	1.7	1
112	Study on the cohesive edge crack in a square plate with the cohesive element method. International Journal of Fracture, 2021, 231, 21.	2.2	1
113	Collision Consequence Assessment of ROPAX Vessels Operating in the Baltic Sea. , 2012, , .		1
114	Development of Combined Load Spectra for Offshore Structures Subjected to Wind, Wave, and Ice Loading. Energies, 2022, 15, 559.	3.1	1
115	Preface for the Collision and Grounding Special Issue. Ships and Offshore Structures, 2012, 7, 3-3.	1.9	0
116	A Novel Data Processing Method for Ice Pressure Area Relations. , 2014, , .		0
117	Challenges for Using LNG Fueled Ships for Arctic Routes. , 2014, , .		0
118	Emission Reduction Technology and Cost Efficiency for Ships Operating on the Northern Sea Route: A Case Study. , 2015, , .		0
119	A Rubber Bag for Liquid Cargo to Improve Ship Collision Safety. , 2016, , .		0
120	A FEM Based Potential Theory Approach for Optimal Ice Routing. , 2016, , .		0
121	Influence of Nonsymmetric Steel Sandwich Panel Joints on Response and Fatigue Strength of Passenger Ship Deck Structures. Journal of Ship Production and Design, 2017, 33, 135-143.	0.4	0
122	Updatable Spatio-Temporal Probabilistic Corrosion Modeling for Offshore Structures. , 2018, , .		0
123	Crack Monitoring in Resonance Fatigue Testing of Welded Specimens Using Digital Image Correlation. Journal of Visualized Experiments, 2019, , .	0.3	0
124	A Case Study of the Influence on Crashworthiness From the Implementation of Ice Strengthening. , 2014, , .		0
125	Ice Pressure Prediction Based on the Probabilistic Method for Ice-Going Vessels in Inland Waterways. , 2018, , .		0
126	A procedure for numerically model surface of the corroded specimen. Ships and Offshore Structures, 2023, 18, 469-484.	1.9	0

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127	Influence of corrosion pit geometry on stress distribution within a single artificial pit. Ship Technology Research, 2023, 70, 73-89.	2.5	0