

Pentti Kujala

List of Publications by Year in descending order

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Version: 2024-02-01

87
papers

3,754
citations

136950

32
h-index

128289

60
g-index

87
all docs

87
docs citations

87
times ranked

1481
citing authors

#	ARTICLE	IF	CITATIONS
1	Traffic simulation based ship collision probability modeling. Reliability Engineering and System Safety, 2011, 96, 91-107.	8.9	221
2	Analysis of the marine traffic safety in the Gulf of Finland. Reliability Engineering and System Safety, 2009, 94, 1349-1357.	8.9	217
3	Probability modelling of vessel collisions. Reliability Engineering and System Safety, 2010, 95, 573-589.	8.9	208
4	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
5	A method for detecting possible near miss ship collisions from AIS data. Ocean Engineering, 2015, 107, 60-69.	4.3	188
6	Use of HFACS and fault tree model for collision risk factors analysis of icebreaker assistance in ice-covered waters. Safety Science, 2019, 111, 128-143.	4.9	178
7	Influences of variables on ship collision probability in a Bayesian belief network model. Reliability Engineering and System Safety, 2012, 102, 27-40.	8.9	167
8	A risk-informed ship collision alert system: Framework and application. Safety Science, 2015, 77, 182-204.	4.9	130
9	On the reliability and validity of ship – ship collision risk analysis in light of different perspectives on risk. Safety Science, 2014, 62, 348-365.	4.9	118
10	A Big Data Analytics Method for the Evaluation of Ship - Ship Collision Risk reflecting Hydrometeorological Conditions. Reliability Engineering and System Safety, 2021, 213, 107674.	8.9	116
11	Bayesian network model of maritime safety management. Expert Systems With Applications, 2014, 41, 7837-7846.	7.6	114
12	A risk analysis of winter navigation in Finnish sea areas. Accident Analysis and Prevention, 2015, 79, 100-116.	5.7	91
13	Towards probabilistic models for the prediction of a ship performance in dynamic ice. Cold Regions Science and Technology, 2015, 112, 14-28.	3.5	87
14	A method for the direct assessment of ship collision damage and flooding risk in real conditions. Ocean Engineering, 2021, 237, 109605.	4.3	80
15	On a systematic perspective on risk for formal safety assessment (FSA). Reliability Engineering and System Safety, 2014, 127, 77-85.	8.9	79
16	Risk management model of winter navigation operations. Marine Pollution Bulletin, 2016, 108, 242-262.	5.0	79
17	A probabilistic model estimating oil spill clean-up costs – A case study for the Gulf of Finland. Marine Pollution Bulletin, 2013, 76, 61-71.	5.0	71
18	Towards an evidence-based probabilistic risk model for ship-grounding accidents. Safety Science, 2016, 86, 195-210.	4.9	71

#	ARTICLE	IF	CITATIONS
19	A predictive analytics method for maritime traffic flow complexity estimation in inland waterways. Reliability Engineering and System Safety, 2022, 220, 108317.	8.9	70
20	A systemic hazard analysis and management process for the concept design phase of an autonomous vessel. Reliability Engineering and System Safety, 2019, 191, 106584.	8.9	65
21	Modeling the risk of ship grounding—a literature review from a risk management perspective. WMU Journal of Maritime Affairs, 2014, 13, 269-297.	2.7	61
22	Preventing shipping accidents: Past, present, and future of waterway risk management with Baltic Sea focus. Safety Science, 2020, 129, 104798.	4.9	60
23	Improving stand-on ship's situational awareness by estimating the intention of the give-way ship. Ocean Engineering, 2020, 201, 107110.	4.3	60
24	A framework to model the STPA hierarchical control structure of an autonomous ship. Safety Science, 2020, 132, 104939.	4.9	58
25	A machine learning method for the evaluation of ship grounding risk in real operational conditions. Reliability Engineering and System Safety, 2022, 226, 108697.	8.9	57
26	Influence of impact scenario models on collision risk analysis. Ocean Engineering, 2012, 47, 74-87.	4.3	54
27	Review of risk-based design for ice-class ships. Marine Structures, 2019, 63, 181-195.	3.8	48
28	Impact scenario models for probabilistic risk-based design for ship–ship collision. Marine Structures, 2013, 33, 238-264.	3.8	47
29	Assessing Grounding Frequency using Ship Traffic and Waterway Complexity. Journal of Navigation, 2015, 68, 89-106.	1.7	43
30	A Bayesian Network risk model for assessing oil spill recovery effectiveness in the ice-covered Northern Baltic Sea. Marine Pollution Bulletin, 2019, 139, 440-458.	5.0	42
31	Statistical analysis of ice crushing pressures on a ship's hull during hull–ice interaction. Cold Regions Science and Technology, 2012, 70, 1-11.	3.5	37
32	Predicting ice-induced load amplitudes on ship bow conditional on ice thickness and ship speed in the Baltic Sea. Cold Regions Science and Technology, 2017, 135, 116-126.	3.5	35
33	Evaluation of selected state-of-the-art methods for ship transit simulation in various ice conditions based on full-scale measurement. Cold Regions Science and Technology, 2018, 151, 94-108.	3.5	32
34	Influence of load length on short-term ice load statistics in full-scale. Marine Structures, 2017, 52, 153-172.	3.8	28
35	The influence of fluid structure interaction modelling on the dynamic response of ships subject to collision and grounding. Marine Structures, 2021, 75, 102875.	3.8	28
36	Finite element based meta-modeling of ship-ice interaction at shoulder and midship areas for ship performance simulation. Marine Structures, 2020, 71, 102736.	3.8	27

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37	An extended ice failure model to improve the fidelity of icebreaking pattern in numerical simulation of ship performance in level ice. <i>Ocean Engineering</i> , 2019, 176, 169-183.	4.3	23
38	Probability of a ship becoming beset in ice along the Northern Sea Route – A Bayesian analysis of real-life data. <i>Cold Regions Science and Technology</i> , 2021, 184, 103238.	3.5	23
39	Variation in short-term ice-induced load amplitudes on a ship's hull and related probability distributions. <i>Cold Regions Science and Technology</i> , 2014, 106-107, 131-140.	3.5	22
40	Model-scale ice – Part A: Experiments. <i>Cold Regions Science and Technology</i> , 2013, 94, 74-81.	3.5	20
41	Prognostic health management of repairable ship systems through different autonomy degree; From current condition to fully autonomous ship. <i>Reliability Engineering and System Safety</i> , 2022, 221, 108355.	8.9	19
42	Load carrying capacity of ice-strengthened frames under idealized ice load and boundary conditions. <i>Marine Structures</i> , 2018, 58, 18-30.	3.8	18
43	Increasing energy efficiency in passenger ships by novel energy conservation measures. <i>Journal of Marine Engineering and Technology</i> , 2018, 17, 85-98.	4.1	18
44	Remote piloting in an intelligent fairway – A paradigm for future pilotage. <i>Safety Science</i> , 2020, 130, 104889.	4.9	18
45	Semi-empirical evaluation of long term ice loads on a ship hull. <i>Marine Structures</i> , 1996, 9, 849-871.	3.8	17
46	Expert elicitation of a navigation service implementation effects on ship groundings and collisions in the Gulf of Finland. <i>Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability</i> , 2014, 228, 19-28.	0.7	17
47	Comparison of numerical approaches for structural response analysis of passenger ships in collisions and groundings. <i>Marine Structures</i> , 2022, 81, 103125.	3.8	17
48	Improving Near Miss Detection in Maritime Traffic in the Northern Baltic Sea from AIS Data. <i>Journal of Marine Science and Engineering</i> , 2021, 9, 180.	2.6	16
49	Numerical simulation of ship performance in level ice: A framework and a model. <i>Applied Ocean Research</i> , 2020, 102, 102288.	4.1	15
50	A comparative method for scaling SOLAS collision damage distributions based on ship crashworthiness – application to probabilistic damage stability analysis of a passenger ship. <i>Ships and Offshore Structures</i> , 2022, 17, 1498-1514.	1.9	15
51	A Framework for Integrating Life-Safety and Environmental Consequences into Conventional Arctic Shipping Risk Models. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 2937.	2.5	14
52	A method for extracting key performance indicators from maritime safety management norms. <i>WMU Journal of Maritime Affairs</i> , 2016, 15, 237-265.	2.7	13
53	From data to insight for a polar supply and research vessel. <i>Ship Technology Research</i> , 2019, 66, 57-73.	2.5	13
54	A decision-making framework for selecting an MBSE language – A case study to ship pilotage. <i>Expert Systems With Applications</i> , 2022, 193, 116451.	7.6	13

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55	Uncertainty in maritime risk analysis: Extended case study on chemical tanker collisions. Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment, 2015, 229, 303-320.	0.5	12
56	Simulation-Based Assessment of the Operational Performance of the Finnishâ€“Swedish Winter Navigation System. Applied Sciences (Switzerland), 2020, 10, 6747.	2.5	12
57	Local pressures for ships in ice: Probabilistic analysis of full-scale line-load data. Marine Structures, 2020, 74, 102822.	3.8	11
58	Numerical Modeling of Marine Circulation, Pollution Assessment and Optimal Ship Routes. Journal of Marine Science and Engineering, 2017, 5, 27.	2.6	10
59	Analysis of a Collision-Energy-Based Method for the Prediction of Ice Loading on Ships. Applied Sciences (Switzerland), 2019, 9, 4546.	2.5	10
60	A Holistic Multi-Objective Design Optimization Approach for Arctic Offshore Supply Vessels. Sustainability, 2021, 13, 5550.	3.2	10
61	Ship performance in ice channels narrower than ship beam: Model test and numerical investigation. Ocean Engineering, 2021, 240, 109922.	4.3	10
62	The Baltic Sea circulation modelling and assessment of marine pollution. Russian Journal of Numerical Analysis and Mathematical Modelling, 2014, 29, .	0.6	9
63	Purity and mechanical strength of naturally frozen ice in wastewater basins. Water Research, 2018, 145, 418-428.	11.3	9
64	Short-term statistics of ice loads on ship bow frames in floe ice fields: Full-scale measurements in the Antarctic ocean. Marine Structures, 2021, 80, 103049.	3.8	9
65	A comprehensive approach to scenario-based risk management for Arctic waters. Ship Technology Research, 2022, 69, 129-157.	2.5	8
66	On reliability assessment of ship machinery system in different autonomy degree; A Bayesian-based approach. Ocean Engineering, 2022, 254, 111252.	4.3	8
67	Effect of Maneuvering on Ice-Induced Loading on Ship Hull: Dedicated Full-Scale Tests in the Baltic Sea. Journal of Marine Science and Engineering, 2020, 8, 759.	2.6	7
68	Next-Generation Smart Response Web (NG-SRW): An Operational Spatial Decision Support System for Maritime Oil Spill Emergency Response in the Gulf of Finland (Baltic Sea). Sustainability, 2021, 13, 6585.	3.2	7
69	A Complete Process For Shipborne Sea-Ice Field Analysis Using Machine Vision. IFAC-PapersOnLine, 2020, 53, 14539-14545.	0.9	7
70	Rotating ice cusps on ship's bow shoulder: Full-scale study on the cusp sizes and corresponding peak loads in different ice and operational conditions. Ocean Engineering, 2019, 189, 106280.	4.3	6
71	A simplified fluid structure interaction model for the assessment of ship hard grounding. Journal of Marine Science and Technology, 2022, 27, 695-711.	2.9	5
72	Tools for an Extended Risk Assessment for Ropax Ship-Ship Collision. , 2014, , .		4

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73	Towards mission-based structural design for arctic regions. Ship Technology Research, 2017, 64, 115-128.	2.5	4
74	A probabilistic method for long-term estimation of ice loads on ship hull. Structural Safety, 2021, 93, 102130.	5.3	4
75	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
76	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
77	Predicting local ice loads on ship bow as a function of ice and operational conditions in the Southern Sea. Ship Technology Research, 2018, 65, 87-101.	2.5	3
78	Risk theory based solution to the problem of optimal vessel route. Russian Journal of Numerical Analysis and Mathematical Modelling, 2014, 29, .	0.6	2
79	Future Scenarios for Arctic Shipping. , 2020, , .		2
80	A goal-based approach for selecting a ship's polar class. Marine Structures, 2022, 81, 103123.	3.8	2
81	An Artificial Bee Colony optimization-based approach for sizing and composition of Arctic offshore drilling support fleets considering cost-efficiency. Ship Technology Research, 2022, 69, 65-88.	2.5	2
82	The problem of control of oil pollution risk in the Baltic Sea. Russian Journal of Numerical Analysis and Mathematical Modelling, 2014, 29, .	0.6	1
83	Modelling of a Cruise Shipbuilding Process for Analyzing the Effect of Organization on Production Efficiency. Journal of Ship Production and Design, 2017, 33, 101-121.	0.4	1
84	Shipborne sea-ice field mapping using a LiDAR. , 2021, , .		1
85	Representing Ice Loads with Pressure Patches in the Analysis of Ship Structures. , 2016, , .		0
86	Special Issue on the Recent Advances in Safe Maritime Operations under Extreme Conditions. Applied Sciences (Switzerland), 2021, 11, 5789.	2.5	0
87	Effect of pressure distribution on the capacity of ship structure frames. , 2017, , .		0