

J Riley Edwards

List of Publications by Year in descending order

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73
papers

617
citations

687220

13
h-index

752573

20
g-index

73
all docs

73
docs citations

73
times ranked

298
citing authors

#	ARTICLE	IF	CITATIONS
1	Evaluation of dynamic and impact wheel load factors and their application in design processes. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2017, 231, 33-43.	1.3	47
2	Quantification of concrete railway sleeper bending moments using surface strain gauges. Measurement: Journal of the International Measurement Confederation, 2017, 111, 197-207.	2.5	43
3	Train Delay and Economic Impact of In-Service Failures of Railroad Rolling Stock. Transportation Research Record, 2011, 2261, 124-133.	1.0	34
4	Smart railway sleepers - a review of recent developments, challenges, and future prospects. Construction and Building Materials, 2021, 271, 121533.	3.2	32
5	Laboratory investigation of the Skl-style fastening system's lateral load performance under heavy haul freight railroad loads. Engineering Structures, 2017, 139, 71-80.	2.6	22
6	Analysis of the temperature effect on concrete crosstie flexural behavior. Construction and Building Materials, 2019, 196, 362-374.	3.2	22
7	Temperature-induced curl behavior of prestressed concrete and its effect on railroad crossties. Construction and Building Materials, 2016, 115, 319-326.	3.2	20
8	Numerical and experimental study on dynamic behaviour of concrete sleeper track caused by wheel flat. International Journal of Rail Transportation, 2016, 4, 1-19.	1.8	20
9	Quantification of rail transit wheel loads and development of improved dynamic and impact loading factors for design. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2018, 232, 2406-2417.	1.3	19
10	Railroad infrastructure 4.0: Development and application of an automatic ballast support condition assessment system. Transportation Geotechnics, 2019, 19, 19-34.	2.0	19
11	Parametric study on damage and load demand of prestressed concrete crosstie and fastening systems. Engineering Failure Analysis, 2014, 46, 49-61.	1.8	16
12	Investigation of the mechanics of rail seat deterioration and methods to improve the abrasion resistance of concrete sleeper rail seats. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2014, 228, 581-589.	1.3	14
13	Load Characterization Techniques and Overview of Loading Environment in North America. Transportation Research Record, 2014, 2448, 80-86.	1.0	14
14	Laboratory fatigue performance of under-ballast mats under varying loads and support conditions. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2019, 233, 606-613.	1.3	14
15	Measuring Rail Seat Pressure Distribution in Concrete Crossties. Transportation Research Record, 2013, 2374, 190-200.	1.0	13
16	Finite Element Analysis of Rail-End Bolt Hole and Fillet Stress on Bolted Rail Joints. Transportation Research Record, 2017, 2607, 33-42.	1.0	13
17	Quantification of Loading Environment and Flexural Demand of Prestressed Concrete Crossties under Shared Corridor Operating Conditions. Transportation Research Record, 2018, 2672, 136-145.	1.0	13
18	Investigation into the effect of lateral and longitudinal loads on railroad spike stress magnitude and location using finite element analysis. Engineering Failure Analysis, 2019, 104, 388-398.	1.8	13

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19	Flexural Behavior of Concrete Crossties under Different Support Conditions. Journal of Transportation Engineering Part A: Systems, 2017, 143, .	0.8	12
20	Compressive stress distribution in prestressed concrete and its effect on railroad crosstie design. Construction and Building Materials, 2017, 151, 147-157.	3.2	12
21	Quantifying Bending Moments in Rail-Transit Concrete Sleepers. Journal of Transportation Engineering Part A: Systems, 2018, 144, .	0.8	12
22	Finite element modelling and field validation of prestressed concrete sleepers and fastening systems. Structure and Infrastructure Engineering, 2016, 12, 631-646.	2.0	11
23	Laboratory Characterization of Structural Capacity of North American Heavy Haul Concrete Crossties. Transportation Research Record, 2018, 2672, 116-124.	1.0	11
24	Examination of the Effect of Concrete Crosstie Rail Seat Deterioration on Rail Seat Load Distribution. Transportation Research Record, 2015, 2476, 1-7.	1.0	10
25	Finite Element Analysis of the Effects of Bolt Condition on Bolted Rail Joint Stresses. Transportation Research Record, 2016, 2545, 36-45.	1.0	10
26	Quantification of vertical, lateral, and longitudinal fastener demand in broken spike track: Inputs to mechanistic-empirical design. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 0, , 095440972110307.	1.3	8
27	Laboratory analysis of track gauge restraining capacity of center-cracked railway concrete sleepers with various support conditions. Engineering Failure Analysis, 2018, 94, 354-363.	1.8	7
28	Probabilistic framework for the assessment of the flexural design of concrete sleepers. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2020, 234, 691-701.	1.3	7
29	Laboratory Investigation of the Abrasive Wear Mechanism of Concrete Crosstie Rail Seat Deterioration (RSD). , 2012, , .		6
30	Quantification of the lateral forces in concrete sleeper fastening systems. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2016, 230, 1714-1721.	1.3	6
31	Identification of the under-tie pad material characteristics for stress state reduction. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2020, 234, 1227-1237.	1.3	6
32	Use of Field Flexural Demand Data for Reliability-Based Analysis and Design of Concrete Railroad Sleepers. Frontiers in Built Environment, 2020, 6, .	1.2	6
33	Analysis of the Relationship Between Rail Seat Load Distribution and Rail Seat Deterioration in Concrete Crossties. , 2014, , .		5
34	Methods for quantifying rail seat loads and a review of previous experimentation. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2016, 230, 935-945.	1.3	5
35	Effect of particle intrusion on rail seat load distributions on heavy haul freight railroads. International Journal of Rail Transportation, 2016, 4, 98-112.	1.8	5
36	Support Condition and Traffic Loading Patterns Influencing Laboratory Determination of Under Ballast Mat Bedding Modulus and Insertion Loss. Transportation Research Record, 2018, 2672, 74-84.	1.0	5

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37	Analytical Method to Estimate Railroad Spike Fastener Stress. Transportation Research Record, 2020, 2674, 379-389.	1.0	5
38	Methods to mitigate railway premium fastening system spike fatigue failures using finite element analysis. Engineering Failure Analysis, 2021, 121, 105160.	1.8	5
39	Analytical Elastic Modeling of Rail and Fastener Longitudinal Response. Transportation Research Record, 0, , 036119812098584.	1.0	5
40	Quantifying Shared Corridor Wheel Loading Variation Using Wheel Impact Load Detectors. , 2013, , .		5
41	Analytical Nonlinear Modeling of Rail and Fastener Longitudinal Response. Transportation Research Record, 2022, 2676, 695-707.	1.0	5
42	Measuring Concrete Crosstie Rail Seat Pressure Distribution With Matrix Based Tactile Surface Sensors. , 2012, , .		4
43	Analysis of the Lateral Load Path in Concrete Crosstie Fastening Systems. , 2014, , .		4
44	Load quantification of the wheel-rail interface of rail vehicles for the infrastructure of light rail, heavy rail, and commuter rail transit. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2018, 232, 596-605.	1.3	4
45	A Roadmap for Sustainable Smart Track-Wireless Continuous Monitoring of Railway Track Condition. Sustainability, 2021, 13, 7456.	1.6	4
46	Gauging of Concrete Crossties to Investigate Load Path in Laboratory and Field Testing. , 2014, , .		4
47	Track Modulus Assessment of Engineered Interspersed Concrete Sleepers in Ballasted Track. Applied Sciences (Switzerland), 2021, 11, 261.	1.3	4
48	Exploration of Alternatives for Prestressed Concrete Monoblock Crosstie Design Based on Flexural Capacity. , 2015, , .		3
49	Analysis of geometric ballast plate for laboratory testing of resilient track components. Transportation Geotechnics, 2019, 20, 100240.	2.0	3
50	Quantification of the Effect of Train Type on Concrete Sleeper Ballast Pressure Using a Support Condition Back-Calculator. Frontiers in Built Environment, 2020, 6, .	1.2	3
51	Load and response quantification of direct fixation fastening systems for heavy rail transit infrastructure. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2021, 235, 1110-1121.	1.3	3
52	Degradation Mechanisms of Concrete Due to Water Flow in Cracks of Prestressed Railroad Sleepers under Cyclic Loading. Journal of Materials in Civil Engineering, 2022, 34, .	1.3	3
53	Impact of Automated Inspection Technology on Unit Train Performance. , 2010, , .		2
54	Evaluating the Potential for Damaging Hydraulic Pressure in the Concrete Tie Rail Seat. , 2010, , .		2

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55	Investigation of Material Improvements to Mitigate the Effects of the Abrasion Mechanism of Concrete Crosstie Rail Seat Deterioration. Journal of Transportation Engineering, 2014, 140, 04013009.	0.9	2
56	Investigation of Relationship between Train Speed and Bolted Rail Joint Fatigue Life using Finite Element Analysis. Transportation Research Record, 2018, 2672, 85-95.	1.0	2
57	Vision for Mechanistic-Empirical Railway Track System and Component Analysis and Design. Transportation Research Record, 2021, 2675, 41-55.	1.0	2
58	Fatigue Analysis of Rail-Head-to-Web Fillet at Bolted Rail Joint Under Various Impact Wheel Load Factors and Support Configurations. , 2016, , .		2
59	Developing Railway Higher Education in the European Union and United States. , 2010, , .		2
60	Emerging Condition Monitoring Technologies for Railway Track Components and Special Trackwork. , 2011, , .		1
61	Statistical Prediction of Center Negative Bending Capacity of Pretensioned Concrete Crossties. Journal of Transportation Engineering Part A: Systems, 2020, 146, 04019074.	0.8	1
62	Development of a parametric model for the prediction of concrete railway crosstie service bending moments. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2020, 234, 1253-1264.	1.3	1
63	Effect of easement geometry on rail end fillet stress at bolted rail joints for transit track. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2021, 235, 906-913.	1.3	1
64	Variability of support conditions and effects on the non-linear flexural response of concrete sleepers. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2022, 236, 950-959.	1.3	1
65	Improving the Abrasion Resistance of Concrete to Mitigate Concrete Crosstie Rail Seat Deterioration (RSD). Materials Performance and Characterization, 2017, 6, 521-534.	0.2	1
66	Quantification of longitudinal fastener stiffness and the effect on fastening system loading demand. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 0, , 095440972211125.	1.3	1
67	Machine Vision Condition Monitoring of Railcar Structural Underframe Components. , 2009, , .		0
68	Review of Intermodal Train Loading Metrics for North American Railroads. , 2011, , .		0
69	Evaluation of Laboratory and Field Experimentation Characterizing Concrete Crosstie Rail Seat Load Distributions. , 2015, , .		0
70	Effect of Design Rail Cant on Concrete Crosstie Rail Seat Pressure Distribution. , 2016, , .		0
71	Quantification of Rail Displacements Under Light Rail Transit Field Loading Conditions. , 2017, , .		0
72	Laboratory and Field Investigation of the Rail Pad Assembly Mechanistic Behavior. , 2014, , .		0

#	ARTICLE	IF	CITATIONS
73	An analytical method to determine the post-cracking flexural stress in pretensioned concrete beams. Engineering Structures, 2022, 260, 114188.	2.6	0