Marcus S Dersch

List of Publications by Year
in descending order

46 papers	470 citations	759055 12 h-index	794469 19 g-index
46 all docs	46 docs citations	46 times ranked	229 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	Smart railway sleepers - a review of recent developments, challenges, and future prospects. Construction and Building Materials, 2021, 271, 121533.	3.2	32
4	Laboratory investigation of the Skl-style fastening systemâ€™s lateral load performance under heavy haul freight railroad loads. Engineering Structures, 2017, 139, 71-80.	2.6	22
5	Analysis of the temperature effect on concrete crosstie flexural behavior. Construction and Building Materials, 2019, 196, 362-374.	3.2	22
6	Temperature-induced curl behavior of prestressed concrete and its effect on railroad crossties. Construction and Building Materials, 2016, 115, 319-326.	3.2	20
7	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
8	Railroad infrastructure 4.0: Development and application of an automatic ballast support condition assessment system. Transportation Geotechnics, 2019, 19, 19-34.	2.0	19
9	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
10	Load Characterization Techniques and Overview of Loading Environment in North America. Transportation Research Record, 2014, 2448, 80-86.	1.0	14
11	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
12	Measuring Rail Seat Pressure Distribution in Concrete Crossties. Transportation Research Record, 2013, 2374, 190-200.	1.0	13
13	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
14	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
15	Flexural Behavior of Concrete Crossties under Different Support Conditions. Journal of Transportation Engineering Part A: Systems, 2017, 143, .	0.8	12
16	Compressive stress distribution in prestressed concrete and its effect on railroad crosstie design. Construction and Building Materials, 2017, 151, 147-157.	3.2	12
17	Quantifying Bending Moments in Rail-Transit Concrete Sleepers. Journal of Transportation Engineering Part A: Systems, 2018, 144, .	0.8	12
18	Laboratory Characterization of Structural Capacity of North American Heavy Haul Concrete Crossties. Transportation Research Record, 2018, 2672, 116-124.	1.0	11

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19	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
20	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
21	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
22	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
23	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
24	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
25	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
26	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
27	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
28	Analytical Method to Estimate Railroad Spike Fastener Stress. Transportation Research Record, 2020, 2674, 379-389.	1.0	5
29	Methods to mitigate railway premium fastening system spike fatigue failures using finite element analysis. Engineering Failure Analysis, 2021, 121, 105160.	1.8	5
30	Analytical Elastic Modeling of Rail and Fastener Longitudinal Response. Transportation Research Record, 0, , 036119812098584.	1.0	5
31	Quantifying Shared Corridor Wheel Loading Variation Using Wheel Impact Load Detectors. , 2013, , .		5
32	Analytical Nonlinear Modeling of Rail and Fastener Longitudinal Response. Transportation Research Record, 2022, 2676, 695-707.	1.0	5
33	Load quantification of the wheelâ€“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
34	A Roadmap for Sustainable Smart Trackâ€”Wireless Continuous Monitoring of Railway Track Condition. Sustainability, 2021, 13, 7456.	1.6	4
35	Gauging of Concrete Crossties to Investigate Load Path in Laboratory and Field Testing. , 2014, , .		4
36	Track Modulus Assessment of Engineered Interspersed Concrete Sleepers in Ballasted Track. Applied Sciences (Switzerland), 2021, 11, 261.	1.3	4

#	Article	IF	Citations
37	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
38	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
39	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
40	Vision for Mechanistic-Empirical Railway Track System and Component Analysis and Design. Transportation Research Record, 2021, 2675, 41-55.	1.0	2
41	Use of deep convolutional neural networks and change detection technology for railway track inspections. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2023, 237, 137-145.	1.3	2
42	Statistical Prediction of Center Negative Bending Capacity of Pretensioned Concrete Crossties. Journal of Transportation Engineering Part A: Systems, 2020, 146, 04019074.	0.8	1
43	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
44	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
45	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
46	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