Tom Depover

List of Publications by Year
in descending order

66 papers	2,166 citations	279798 23 h-index	233421 45 g-index
66 all docs	66 docs citations	66 times ranked	748 citing authors

#	Article	IF	Citations
1	Effect of hydrogen charging on the mechanical properties of advanced high strength steels. International Journal of Hydrogen Energy, 2014, 39, 4647-4656.	7.1	186
2	The detrimental effect of hydrogen at dislocations on the hydrogen embrittlement susceptibility of Fe-C-X alloys: An experimental proof of the HELP mechanism. International Journal of Hydrogen Energy, 2018, 43, 3050-3061.	7.1	140
3	The effect of TiC on the hydrogen induced ductility loss and trapping behavior of Fe-C-Ti alloys. Corrosion Science, 2016, 112, 308-326.	6.6	139
4	Combined thermal desorption spectroscopy, differential scanning calorimetry, scanning electron microscopy and X-ray diffraction study of hydrogen trapping in cold deformed TRIP steel. Acta Materialia, 2012, 60, 2593-2605.	7.9	130
5	Microstructural characterization of hydrogen induced cracking in TRIP-assisted steel by EBSD. Materials Characterization, 2016, 112, 169-179.	4.4	100
6	Thermal desorption spectroscopy study of the interaction between hydrogen and different microstructural constituents in lab cast Feâ€“C alloys. Corrosion Science, 2012, 65, 199-208.	6.6	99
7	Fractographic analysis of the role of hydrogen diffusion on the hydrogen embrittlement susceptibility of DP steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 649, 201-208.	5.6	94
8	Evaluation of the effect of V4C3 precipitates on the hydrogen induced mechanical degradation in Fe-C-V alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 675, 299-313.	5.6	82
9	Hydrogen trapping and hydrogen induced mechanical degradation in lab cast Fe-C-Cr alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 669, 134-149.	5.6	81
10	Effect of Ti, Mo and Cr based precipitates on the hydrogen trapping and embrittlement of Feâ€“Câ€“X Q&T alloys. International Journal of Hydrogen Energy, 2015, 40, 16977-16984.	7.1	76
11	Thermal Desorption Spectroscopy Evaluation of the Hydrogen-Trapping Capacity of NbC and NbN Precipitates. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 2412-2420.	2.2	71
12	Characterization of hydrogen induced cracking in TRIP-assisted steels. International Journal of Hydrogen Energy, 2015, 40, 16901-16912.	7.1	65
13	Evaluation of the role of Mo2C in hydrogen induced ductility loss in Q&T Fe C Mo alloys. International Journal of Hydrogen Energy, 2016, 41, 14310-14329.	7.1	64
14	On the synergy of diffusible hydrogen content and hydrogen diffusivity in the mechanical degradation of laboratory cast Fe-C alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 664, 195-205.	5.6	62
15	Determination of the equivalent hydrogen fugacity during electrochemical charging of 3.5NiCrMoV steel. Corrosion Science, 2018, 132, 90-106.	6.6	55
16	Microstructural based hydrogen diffusion and trapping models applied to Feâ€“C X alloys. Journal of Alloys and Compounds, 2020, 826, 154057.	5.5	50
17	Model-based interpretation of thermal desorption spectra of Fe-C-Ti alloys. Journal of Alloys and Compounds, 2019, 789, 647-657.	5.5	47
18	Critical assessment of the evaluation of thermal desorption spectroscopy data for duplex stainless steels: A combined experimental and numerical approach. Acta Materialia, 2020, 186, 190-198.	7.9	36

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19	Influence of sample geometry and microstructure on the hydrogen induced cracking characteristics under uniaxial load. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 690, 88-95.	5.6	34
20	Assessment of the potential of hydrogen plasma charging as compared to conventional electrochemical hydrogen charging on dual phase steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 754, 613-621.	5.6	33
21	The impact of hydrogen on the ductility loss of bainitic Feâ€“C alloys. Materials Science and Technology, 2016, 32, 1625-1631.	1.6	31
22	The Effect of Microstructural Characteristics on the Hydrogen Permeation Transient in Quenched and Tempered Martensitic Alloys. Metals, 2018, 8, 779.	2.3	26
23	Understanding the Interaction between a Steel Microstructure and Hydrogen. Materials, 2018, 11, 698.	2.9	26
24	Thermal desorption spectroscopy study of the hydrogen trapping ability of W based precipitates in a Q&T matrix. International Journal of Hydrogen Energy, 2018, 43, 5760-5769.	7.1	25
25	The effect of a constant tensile load on the hydrogen diffusivity in dual phase steel by electrochemical permeation experiments. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 773, 138872.	5.6	24
26	EBSD characterization of hydrogen induced blisters and internal cracks in TRIP-assisted steel. Materials Characterization, 2020, 159, 110029.	4.4	23
27	The role of titanium and vanadium based precipitates on hydrogen induced degradation of ferritic materials. Materials Characterization, 2018, 144, 22-34.	4.4	22
28	Critical verification of the Kissinger theory to evaluate thermal desorption spectra. International Journal of Hydrogen Energy, 2021, 46, 39590-39606.	7.1	22
29	Evaluation of the hydrogen embrittlement susceptibility in DP steel under static and dynamic tensile conditions. International Journal of Impact Engineering, 2019, 123, 118-125.	5.0	21
30	Hydrogen-assisted cracking in 2205 duplex stainless steel: Initiation, propagation and interaction with deformation-induced martensite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 797, 140079.	5.6	19
31	The effect of hydrostatic stress on the hydrogen induced mechanical degradation of dual phase steel: A combined experimental and numerical approach. Engineering Fracture Mechanics, 2019, 221, 106704.	4.3	18
32	Development of an Electrochemical Procedure for Monitoring Hydrogen Sorption/Desorption in Steel. Journal of the Electrochemical Society, 2017, 164, C747-C757.	2.9	17
33	Influence of electrochemical hydrogenation parameters on microstructures prone to hydrogen-induced cracking. Journal of Natural Gas Science and Engineering, 2022, 101, 104533.	4.4	17
34	Study of the hydrogen uptake in deformed steel using the microcapillary cell technique. Corrosion Science, 2019, 155, 55-66.	6.6	16
35	Electrochemical Hydrogen Charging of Duplex Stainless Steel. Corrosion, 2019, 75, 880-887.	1.1	16
36	Hydrogen induced mechanical degradation in tungsten alloyed steels. Materials Characterization, 2018, 136, 84-93.	4.4	15

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37	First observation by EBSD of martensitic transformations due to hydrogen presence during straining of duplex stainless steel. Materials Characterization, 2019, 156, 109843.	4.4	15
38	The effect of hydrogen on the crack initiation site of TRIP-assisted steels during in-situ hydrogen plasma micro-tensile testing: Leading to an improved ductility?. Materials Characterization, 2020, 167, 110493.	4.4	14
39	The effect of quench cracks and retained austenite on the hydrogen trapping capacity of high carbon martensitic steels. International Journal of Hydrogen Energy, 2021, 46, 16141-16152.	7.1	14
40	FeS Corrosion Products Formation and Hydrogen Uptake in a Sour Environment for Quenched & Tempered Steel. Metals, 2018, 8, 62.	2.3	12
41	Effect of environmental and internal hydrogen on the hydrogen assisted cracking behavior of TRIP-assisted steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 739, 437-444.	5.6	12
42	Investigation of the effect of carbon on the reversible hydrogen trapping behavior in lab-cast martensitic Fe C steels. Materials Characterization, 2022, 184, 111671.	4.4	12
43	Comparison of Electrochemical and Thermal Evaluation of Hydrogen Uptake in Steel Alloys Having Different Microstructures. Journal of the Electrochemical Society, 2018, 165, C787-C793.	2.9	10
44	Numerical interpretation to differentiate hydrogen trapping effects in iron alloys in the Devanathan-Stachurski permeation cell. Corrosion Science, 2019, 154, 231-238.	6.6	10
45	Qualification of the in-situ bending technique towards the evaluation of the hydrogen induced fracture mechanism of martensitic Feâ€“C steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 792, 139754.	5.6	10
46	Thermal desorption spectroscopy evaluation of hydrogen-induced damage and deformation-induced defects. Materials Science and Technology, 2020, 36, 1389-1397.	1.6	10
47	Electrochemical hydrogen charging to simulate hydrogen flaking in pressure vessel steels. Engineering Fracture Mechanics, 2019, 217, 106546.	4.3	7
48	The Potential of the Internal Friction Technique to Evaluate the Role of Vacancies and Dislocations in the Hydrogen Embrittlement of Steels. Steel Research International, 2021, 92, 2100037.	1.8	7
49	Mechanistic interpretation on acidic stress-corrosion cracking of NiCrMoV steam turbine steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 802, 140433.	5.6	6
50	The hydrogen trapping ability of TiC and V4C3 by thermal desorption spectroscopy and permeation experiments. Procedia Structural Integrity, 2018, 13, 1414-1420.	0.8	5
51	The Hydrogen Induced Mechanical Degradation of Duplex Stainless Steel. Steel Research International, 2019, 90, 1800451.	1.8	5
52	Effect of Film-Forming Amines on the Acidic Stress-Corrosion Cracking Resistance of Steam Turbine Steel. Metals, 2020, 10, 1628.	2.3	5
53	Mechanical degradation of Fe-C-X steels by acidic stress-corrosion cracking. Corrosion Science, 2020, 167, 108509.	6.6	5
54	Evaluation of the active mechanism for acidic SCC induced mechanical degradation: A methodological approach. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 790, 139645.	5.6	4

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55	Impact of hydrogen and crosshead displacement rate on the martensitic transformations and mechanical properties of 304L stainless steel. Theoretical and Applied Fracture Mechanics, 2021, 113, 102952.	4.7	4
56	Effect of strain rate on the hydrogen embrittlement of a DP steel. EPJ Web of Conferences, 2018, 183, 03015.	0.3	3
57	Initiation of hydrogen induced cracks at secondary phase particles. Frattura Ed Integrita Strutturale, 2020, 14, 113-127.	0.9	3
58	Calibrating a ductile damage model for two pipeline steels: method and challenges. Procedia Structural Integrity, 2020, 28, 2267-2276.	0.8	3
59	Evaluation of the Effect of TiC Precipitates on the Hydrogen Trapping Capacity of Fe-C-Ti Alloys. Advanced Materials Research, 0, 922, 102-107.	0.3	2
60	Microstructural Characterization of Hydrogen Induced Cracking in TRIP Steels by EBSD. Advanced Materials Research, 0, 922, 412-417.	0.3	2
61	The hydrogen embrittlement sensitivity of duplex stainless steel with different phase fractions evaluated by in-situ mechanical testing. Frattura Ed Integrita Strutturale, 2020, 14, 449-458.	0.9	2
62	Assessment of the hydrogen interaction on the mechanical integrity of a welded martensitic steel. Materials Science and Technology, 2021, 37, 250-257.	1.6	1
63	Hydrogen Stress Cracking Resistance and Hydrogen Transport Properties of ASTM A508 Grade 4N. Corrosion, 2022, 78, 96-111.	1.1	1
64	Evaluation of blistered and cold deformed ULC steel with melt extraction and thermal desorption spectroscopy. Procedia Structural Integrity, 2018, 13, 1330-1335.	0.8	0
65	The Key Role of Dedicated Experimental Methodologies in Revealing the Interaction Between Hydrogen and the Steel Microstructure. Advanced Structured Materials, 2021, , 59-85.	0.5	0
66	Evaluating the Hydrogen Embrittlement Susceptibility of Aged 2205 Duplex Stainless Steel Containing Brittle Sigma Phase. Steel Research International, 2021, 92, 2000693.	1.8	0