Satoru Tsuchikawa

List of Publications by Year
in descending order

97	2,715	236925 25	206112 48
papers	citations	h-index	g-index

99	99	99	1420
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Review of Recent Near Infrared Research for Wood and Paper. Applied Spectroscopy Reviews, 2007, 42, 43-71.	6.7	319
2	A review of recent application of near infrared spectroscopy to wood science and technology. Journal of Wood Science, 2015, 61, 213-220.	1.9	213
3	A Review of Recent Near-Infrared Research for Wood and Paper (Part 2). Applied Spectroscopy Reviews, 2013, 48, 560-587.	6.7	143
4	Difference of the Crystal Structure of Cellulose in Wood after Hydrothermal and Aging Degradation: A NIR Spectroscopy and XRD Study. Biomacromolecules, 2010, 11, 2300-2305.	5.4	125
5	Near-Infrared Spectroscopic Monitoring of the Diffusion Process of Deuterium-Labeled Molecules in Wood. Part I: Softwood. Applied Spectroscopy, 2003, 57, 667-674.	2.2	120
6	Monitoring of Hydroxyl Groups in Wood during Heat Treatment Using NIR Spectroscopy. Biomacromolecules, 2008, 9, 286-288.	5.4	94
7	Noncontact evaluation of soluble solids content in apples by near-infrared hyperspectral imaging. Journal of Food Engineering, 2018, 224, 53-61.	5.2	79
8	Application of near Infrared Spectroscopy for Estimating Wood Mechanical Properties of Small Clear and Full Length Lumber Specimens. Journal of Near Infrared Spectroscopy, 2008, 16, 529-537.	1.5	75
9	Near-infrared spectroscopic observation of the ageing process in archaeological wood using a deuterium exchange method. Analyst, The, 2005, 130, 379.	3.5	74
10	A review of near-infrared spectroscopy for monitoring moisture content and density of solid wood. Forestry Chronicle, 2013, 89, 595-606.	0.6	64
11	Near-Infrared Spectroscopic Monitoring of the Diffusion Process of Deuterium-Labeled Molecules in Wood. Part II: Hardwood. Applied Spectroscopy, 2003, 57, 675-681.	2.2	63
12	Estimation of Wood Stiffness and Strength Properties of Hybrid Larch by Near-Infrared Spectroscopy. Applied Spectroscopy, 2007, 61, 882-888.	2.2	59
13	Near-Infrared Spectroscopic Comparison of Antique and Modern Wood. Applied Spectroscopy, 2003, 57, 1451-1453.	2.2	53
14	Near-Infrared Spectroscopic Study of the Physical and Mechanical Properties of Wood with Meso- and Micro-Scale Anatomical Observation. Applied Spectroscopy, 2005, 59, 86-93.	2.2	53
15	Applicability of Vis-NIR hyperspectral imaging for monitoring wood moisture content (MC). Holzforschung, 2013, 67, 307-314.	1.9	52
16	Discriminant analysis of wood-based materials using near-infrared spectroscopy. Journal of Wood Science, 2003, 49, 275-280.	1.9	49
17	Rapid and non-destructive seed viability prediction using near-infrared hyperspectral imaging coupled with a deep learning approach. Computers and Electronics in Agriculture, 2020, 177, 105683.	7.7	49
18	Near-Infrared Spectroscopic Monitoring of the Water Adsorption/Desorption Process in Modern and Archaeological Wood. Applied Spectroscopy, 2008, 62, 860-865.	2.2	48

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19	Eucalyptus camaldulensis density and fiber length estimated by near-infrared spectroscopy. Wood Science and Technology, 2012, 46, 143-155.	3.2	44
20	Rapid assessment of wood chemical properties and pulp yield of Eucalyptus camaldulensis in Thailand tree plantations by near infrared spectroscopy for improving wood selection for high quality pulp. Journal of Wood Science, 2005, 51, 167-171.	1.9	42
21	Rapid and nondestructive evaluation of soluble solids content (SSC) and firmness in apple using Visâ€“NIR spatially resolved spectroscopy. Postharvest Biology and Technology, 2021, 173, 111417.	6.0	40
22	Nondestructive Measurement of the Subsurface Structure of Biological Material Having Cellular Structure by Using Near-Infrared Spectroscopy. Applied Spectroscopy, 1996, 50, 1117-1124.	2.2	39
23	Application of Time-of-Flight Near-Infrared Spectroscopy to Wood with Anisotropic Cellular Structure. Applied Spectroscopy, 2002, 56, 869-876.	2.2	30
24	Prediction of Wood Density Independently of Moisture Conditions Using near Infrared Spectroscopy. Journal of Near Infrared Spectroscopy, 2012, 20, 353-359.	1.5	29
25	Application of near-infrared spectroscopy to agriculture and forestry. Analytical Sciences, 2022, 38, 635-642.	1.6	28
26	Calibration of SilviScan data of Cryptomeria japonica wood concerning density and microfibril angles with NIR hyperspectral imaging with high spatial resolution. Holzforschung, 2017, 71, 341-347.	1.9	26
27	Non-destructive and fast method of mapping the distribution of the soluble solids content and pH in kiwifruit using object rotation near-infrared hyperspectral imaging approach. Postharvest Biology and Technology, 2021, 174, 111440.	6.0	25
28	Fast online NIR technique to predict MOE and moisture content of sawn lumber. Holzforschung, 2015, 69, 329-335.	1.9	24
29	Rapid identification of wood species by near-infrared spatially resolved spectroscopy (NIR-SRS) based on hyperspectral imaging (HSI). Holzforschung, 2019, 73, 323-330.	1.9	24
30	Feasibility of Near-Infrared Spectroscopy for On-Line Grading of Sawn Lumber. Applied Spectroscopy, 2010, 64, 92-99.	2.2	23
31	Prediction of oven-dry density of wood by time-domain terahertz spectroscopy. Holzforschung, 2014, 68, 61-68.	1.9	22
32	Feasibility of near-infrared spectroscopy for online multiple trait assessment of sawn lumber. Journal of Wood Science, 2010, 56, 452-459.	1.9	21
33	Near-Infrared Spectroscopic Investigation of the Hydrothermal Degradation Mechanism of Wood as an Analogue of Archaeological Objects. Part I: Softwood. Applied Spectroscopy, 2008, 62, 1209-1215.	2.2	19
34	Near-infrared spectroscopic analysis of aging degradation in antique washi paper using a deuterium exchange method. Vibrational Spectroscopy, 2009, 51, 100-104.	2.2	18
35	Cognitive spectroscopy for wood species identification: near infrared hyperspectral imaging combined with convolutional neural networks. Analyst, The, 2019, 144, 6438-6446.	3.5	18
36	Application of Time-of-Flight Near Infrared Spectroscopy for Detecting Sugar and Acid Contents in Apples. Journal of Agricultural and Food Chemistry, 2004, 52, 2434-2439.	5.2	17

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37	Application of Time-of-flight Near-infrared Spectroscopy for Detecting Water Core in Apples. Journal of the American Society for Horticultural Science, 2002, 127, 303-308.	1.0	17
38	High-Resolution and Non-destructive Evaluation of the Spatial Distribution of Nitrate and Its Dynamics in Spinach (Spinacia oleracea L.) Leaves by Near-Infrared Hyperspectral Imaging. Frontiers in Plant Science, 2017, 8, 1937.	3.6	16
39	Modal Analysis and Experiment of a Lycium barbarum L. Shrub for Efficient Vibration Harvesting of Fruit. Agriculture (Switzerland), 2021, 11, 519.	3.1	16
40	Determination of true optical absorption and scattering coefficient of wooden cell wall substance by time-of-flight near infrared spectroscopy. Optics Express, 2016, 24, 3999.	3.4	15
41	A novel combined application of capacitive method and near-infrared spectroscopy for predicting the density and moisture content of solid wood. Wood Science and Technology, 2018, 52, 115-129.	3.2	15
42	Rapid and nondestructive prediction of firmness, soluble solids content, and pH in kiwifruit using Visâ€“NIR spatially resolved spectroscopy. Postharvest Biology and Technology, 2022, 186, 111841.	6.0	15
43	Directional Characteristics of Near Infrared Light Reflected from Wood. Holzforschung, 2001, 55, 534-540.	1.9	14
44	Spectroscopic Monitoring of Biomass Modification by Light-Irradiation and Heat Treatment. Journal of Near Infrared Spectroscopy, 2003, 11, 401-405.	1.5	14
45	Assessment of variations in air-dry wood density using time-of-flight near-infrared spectroscopy. Wood Material Science and Engineering, 2015, 10, 57-68.	2.3	14
46	Optical properties of drying wood studied by time-resolved near-infrared spectroscopy. Optics Express, 2016, 24, 9561.	3.4	14
47	Non-destructive evaluation of wood stiffness and fiber coarseness, derived from SilviScan data, via near infrared hyperspectral imaging. Journal of Near Infrared Spectroscopy, 2018, 26, 398-405.	1.5	14
48	Optical characteristics of Douglas fir at various densities, grain directions and thicknesses investigated by near-infrared spatially resolved spectroscopy (NIR-SRS). Holzforschung, 2018, 72, 789-796.	1.9	14
49	Rapidly visualizing the dynamic state of free, weakly, and strongly hydrogen-bonded water with lignocellulosic material during drying by near-infrared hyperspectral imaging. Cellulose, 2020, 27, 4857-4869.	4.9	14
50	Determination of physical and chemical properties and degradation of archeological Japanese cypress wood from the Tohyamago area using near-infrared spectroscopy. Journal of Wood Science, 2018, 64, 347-355.	1.9	13
51	Discriminant Analysis of Wood-Based Materials with Weathering Damage by near Infrared Spectroscopy. Journal of Near Infrared Spectroscopy, 2003, 11, 391-399.	1.5	12
52	Effect of cellular structure on the optical properties of wood. Journal of Near Infrared Spectroscopy, 2018, 26, 53-60.	1.5	12
53	Cognitive spectroscopy for the classification of rice varieties: A comparison of machine learning and deep learning approaches in analysing long-wave near-infrared hyperspectral images of brown and milled samples. Infrared Physics and Technology, 2022, 123, 104100.	2.9	12
54	Non-Destructive near Infrared Spectroscopic Measurement of Antique Washi Calligraphic Scrolls. Journal of Near Infrared Spectroscopy, 2003, 11, 407-411.	1.5	11

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55	Identification of Dead and Sound Knots by near Infrared Spectroscopy. Journal of Near Infrared Spectroscopy, 2010, 18, 473-479.	1.5	11
56	Three-dimensional grain angle measurement of softwood (Hinoki cypress) using near infrared spatially and spectrally resolved imaging (NIR-SSRI). Holzforschung, 2019, 73, 817-826.	1.9	11
57	Application of Time-of-flight Near-infrared Spectroscopy to Detect Sugar and Acid Content in Satsuma Mandarin. Journal of the American Society for Horticultural Science, 2003, 128, 391-396.	1.0	11
58	Effect of knots and holes on the modulus of elasticity prediction and mapping of sugi (Cryptomeria) Tj ETQq0 0 0 rgBT /Overlock 10 T 259-268.	1.9	10
59	Physical and Mechanical Properties of Fast Growing Polyploid Acacia Hybrids (A. auriculiformis Ã— A.) Tj ETQq1 1 0.784314 rgBT /Overlo	2.1	10
60	Review of near infrared hyperspectral imaging applications related to wood and wood products. Applied Spectroscopy Reviews, 2023, 58, 585-609.	6.7	10
61	Modulus of elasticity prediction model on sugi (Cryptomeria japonica) lumber using online near-infrared (NIR) spectroscopic system. International Wood Products Journal, 2017, 8, 193-200.	1.1	9
62	A new approach based on a combination of capacitance and near-infrared spectroscopy for estimating the moisture content of timber. Wood Science and Technology, 2019, 53, 579-599.	3.2	9
63	Visualisation of Degree of Acetylation in Beechwood by near Infrared Hyperspectral Imaging. Journal of Near Infrared Spectroscopy, 2015, 23, 353-360.	1.5	8
64	Selective assessment of duplex heat-treated wood by near-infrared spectroscopy with principal component and kinetic analyses. Journal of Wood Science, 2018, 64, 6-15.	1.9	8
65	Directional Characteristics Model and Light-Path Model for Biological Material Having Cellular Structure. Applied Spectroscopy, 1999, 53, 233-240.	2.2	7
66	Application of near Infrared Spectroscopy to Assessments of Colour Change in Plantation-Grown Eucalyptus Grandis Wood Subjected to Heat and Steaming Treatments. Journal of Near Infrared Spectroscopy, 2005, 13, 371-376.	1.5	7
67	Discriminant Analyzing System for Wood Wastes Using a Visibleâ€"Near-Infrared Chemometric Imaging Technique. Applied Spectroscopy, 2008, 62, 854-859.	2.2	7
68	Optical characteristics of wood investigated by time-of-flight near infrared spectroscopy. Holzforschung, 2011, 65, .	1.9	7
69	Prediction of Wood Density Using near Infrared-Based Partial Least Squares Regression Models Calibrated with X-Ray Microdensity. NIR News, 2013, 24, 4-8.	0.3	7
70	Finite Element Method Simulations and Experiments of Detachments of Lycium barbarum L.. Forests, 2021, 12, 699.	2.1	7
71	Parameter Optimization of Vibrating and Comb-Brushing Harvesting of Lycium barbarum L. Based on FEM and RSM. Horticulturae, 2021, 7, 286.	2.8	7
72	Rapid and nondestructive evaluation of hygroscopic behavior changes of thermally modified softwood and hardwood samples using near-infrared hyperspectral imaging (NIR-HSI). Holzforschung, 2021, 75, 345-357.	1.9	7

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73	Application of Time-of-Flight Near-Infrared Spectroscopy to Fruits: Analysis of Absorption and Scattering Conditions of Near-Infrared Radiation Using Cross-Correlation of the Time-Resolved Profile. Applied Spectroscopy, 2009, 63, 306-312.	2.2	6
74	Demonstration of the applicability of visible and near-infrared spatially resolved spectroscopy for rapid and nondestructive wood classification. Holzforschung, 2021, 75, 419-427.	1.9	6
75	Moisture transport dynamics in wood during drying studied by long-wave near-infrared hyperspectral imaging. Cellulose, 2022, 29, 133-145.	4.9	6
76	Analytical Characterization of Reflected and Transmitted Light from Cellular Structural Material for the Parallel Beam of NIR Incident Light. Applied Spectroscopy, 1999, 53, 1033-1039.	2.2	5
77	Prediction of dry veneer stiffness using near infrared spectra from transverse section of green log. Journal of Wood Science, 2013, 59, 383-388.	1.9	5
78	Construction of a novel densitometer that utilizes a near-infrared laser system with Douglas fir (Pseudotsuga menziesii). Wood Material Science and Engineering, 2015, 10, 69-74.	2.3	5
79	Non-Destructive Inspection of Insects in Chocolate Using near Infrared Multispectral Imaging. Journal of Near Infrared Spectroscopy, 2016, 24, 391-397.	1.5	5
80	Three-Fibre-Based Diffuse Reflectance Spectroscopy for Estimation of Total Solid Content in Natural Rubber Latex. Journal of Near Infrared Spectroscopy, 2016, 24, 327-335.	1.5	5
81	Dynamic behavior of wood chemical components under drying process measured by near infrared spectroscopy. Journal of Near Infrared Spectroscopy, 2017, 25, 400-406.	1.5	5
82	Production of Nanocellulose Film from Abaca Fibers. Crystals, 2022, 12, 601.	2.2	5
83	Application of Time-of-Flight near Infrared Spectroscopy to Fruitsâ€"Permeability of Pulsed Laser Beam into Satsuma Mandarin, White Grapefruit and Fuji Apple. Journal of Near Infrared Spectroscopy, 2008, 16, 139-142.	1.5	4
84	Determination of Optical Parameters and Moisture Content of Wood with Visibleâ€"Near Infrared Spectroscopy. Journal of Near Infrared Spectroscopy, 2016, 24, 571-585.	1.5	4
85	Near-infrared spectroscopy and hyperspectral imaging can aid in the prediction and mapping of polyploid acacia hybrid wood properties in tree improvement programs. Holzforschung, 2021, 75, 1067-1080.	1.9	4
86	Measuring the tensile strain of wood by visible and near-infrared spatially resolved spectroscopy. Cellulose, 2021, 28, 10787-10801.	4.9	4
87	High accuracy rapid prediction and feasibility of on-site nondestructive estimation of Para rubber quality by spectroscopic methods. Journal of Wood Science, 2013, 59, 119-126.	1.9	3
88	Visâ€"NIR spectroscopy for the on-site prediction of wood properties. Forestry Chronicle, 2013, 89, 631-638.	0.6	3
89	Coming Full Circle: Back to Basics in the Application of near Infrared Spectroscopy to the Forest and Wood Products Sector. Journal of Near Infrared Spectroscopy, 2016, 24, v-vii.	1.5	3
90	Comparative Performance of NIR-Hyperspectral Imaging Systems. Foundations, 2022, 2, 523-540.	1.3	3

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91	High spatial resolution and non-destructive evaluation of wood density and microfibril angle by NIR hyperspectral imaging. NIR News, 2017, 28, 7-12.	0.3	2
92	Stiffness and moisture content prediction model of wooden veneer using fast online near-infrared (NIR) spectroscopic system. Forestry Research and Engineering International Journal, 2017, 1, .	0.1	2
93	Experimental study and three-dimensional modeling of moisture transport in wood by means of near-infrared hyperspectral imaging coupled with a heat and mass transfer simulation method. Holzforschung, 2022, 76, 699-710.	1.9	2
94	Establishment of near Infrared Archaeometry. NIR News, 2013, 24, 4-7.	0.3	1
95	Sampling Techniques. , 2006, , 133-143.		0
96	Holistic research of diffusely reflected light in cellulosic materials. NIR News, 2020, 31, 19-23.	0.3	0
97	Creation of Novel Science by Contacting Dissimilar Field: Introduction of Near Infrared Spectroscopy as Example. Trends in the Sciences, 2016, 21, 2_66-2_71.	0.0	0