Joris Van Acker

List of Publications by Year
in descending order

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129	3,458	136940	189881
papers	citations	32 h-index	50 g-index

130	130	130	4107
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Strength properties of thermally modified softwoods and its relation to polymeric structural wood constituents. Annals of Forest Science, 2007, 64, 679-690.	2.0	230
2	Assessment of the tensile properties of coir, bamboo and jute fibre. Composites Part A: Applied Science and Manufacturing, 2010, 41, 588-595.	7.6	211
3	Recent micro-CT scanner developments at UGCT. Nuclear Instruments & Methods in Physics Research B, 2014, 324, 35-40.	1.4	128
4	Optimisation of a two-stage heat treatment process: durability aspects. Wood Science and Technology, 2007, 41, 31-57.	3.2	127
5	Scientific Merits and Analytical Challenges of Treeâ€Ring Densitometry. Reviews of Geophysics, 2019, 57, 1224-1264.	23.0	98
6	Provenancing Baltic timber from art historical objects: success and limitations. Journal of Archaeological Science, 2005, 32, 261-271.	2.4	94
7	The 600 yr eruptive history of Villarrica Volcano (Chile) revealed by annually laminated lake sediments. Bulletin of the Geological Society of America, 2014, 126, 481-498.	3.3	77
8	Biological durability of wood in relation to end-use. European Journal of Wood and Wood Products, 2003, 61, 35-45.	2.9	68
9	La micro-tomographie RX, un outil pour une analyse anatomique fine du bois. Annals of Forest Science, 2009, 66, 508-508.	2.0	64
10	Thermal behaviour of cork and cork components. Thermochimica Acta, 2014, 582, 94-100.	2.7	64
11	MICROSTRUCTURAL AND PHYSICAL ASPECTS OF HEAT TREATED WOOD: PART 2. HARDWOODS. Maderas: Ciencia Y Tecnologia, 2006, 8, 209.	0.7	58
12	Fluctuations of cambial activity in relation to precipitation result in annual rings and intra-annual growth zones of xylem and phloem in teak (Tectona grandis) in Ivory Coast. Annals of Botany, 2012, 110, 861-873.	2.9	56
13	Strong gradients in nitrogen and carbon stocks at temperate forest edges. Forest Ecology and Management, 2016, 376, 45-58.	3.2	56
14	Three-Dimensional X-Ray Imaging and Analysis of Fungi on and in Wood. Microscopy and Microanalysis, 2009, 15, 395-402.	0.4	53
15	Distinct growth responses to drought for oak and beech in temperate mixed forests. Science of the Total Environment, 2019, 650, 3017-3026.	8.0	52
16	Speciesâ€Specific Growth Responses to Climate Variations in Understory Trees of a Central African Rain Forest. Biotropica, 2010, 42, 503-511.	1.6	46
17	3D tree-ring analysis using helical X-ray tomography. Dendrochronologia, 2014, 32, 39-46.	2.2	46
18	High-resolution proxies for wood density variations in Terminalia superba. Annals of Botany, 2011, 107, 293-302.	2.9	44

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19	A tree-ring based comparison of Terminalia superba climateâ€“growth relationships in West and Central Africa. Trees - Structure and Function, 2013, 27, 1225-1238.	1.9	43
20	Detection and distribution analysis of organosilicon compounds in wood by means of SEM-EDX and micro-CT. Materials Characterization, 2006, 56, 39-48.	4.4	42
21	Fungal decay resistance and durability of organosilicon-treated wood. International Biodeterioration and Biodegradation, 2009, 63, 130-134.	3.9	42
22	The persistence of carbon in the African forest understory. Nature Plants, 2019, 5, 133-140.	9.3	41
23	An experimental set-up for real-time continuous moisture measurements of plywood exposed to outdoor climate. Building and Environment, 2009, 44, 2368-2377.	6.9	39
24	Moisture dynamics and fungal susceptibility of plywood. International Biodeterioration and Biodegradation, 2011, 65, 708-716.	3.9	39
25	Toxic hazard of leachates from furfurylated wood: Comparison between two different aquatic organisms. Environmental Toxicology and Chemistry, 2010, 29, 1067-1071.	4.3	38
26	Plant fibers for renewable growing media: Potential of defibration, acidification or inoculation with biocontrol fungi to reduce the N drawdown and plant pathogens. Journal of Cleaner Production, 2018, 203, 1143-1154.	9.3	38
27	Xâ€RAY SUBâ€MICRON TOMOGRAPHY AS A TOOL FOR THE STUDY OF ARCHAEOLOGICAL WOOD PRESERVED THROUGH THE CORROSION OF METAL OBJECTS. Archaeometry, 2012, 54, 893-905.	1.3	37
28	Three-dimensional imaging and analysis of infested coated wood with X-ray submicron CT. International Biodeterioration and Biodegradation, 2008, 61, 278-286.	3.9	36
29	Wood Specific Gravity Variations and Biomass of Central African Tree Species: The Simple Choice of the Outer Wood. PLoS ONE, 2015, 10, e0142146.	2.5	36
30	Moisture dynamics of WPC and the impact on fungal testing. International Biodeterioration and Biodegradation, 2010, 64, 65-72.	3.9	34
31	Dendrochronology in suboptimal conditions: tree rings from medieval oak from Flanders (Belgium) as dating tools and archives of past forest management. Vegetation History and Archaeobotany, 2006, 15, 137-144.	2.1	33
32	A field-to-desktop toolchain for X-ray CT densitometry enables tree ring analysis. Annals of Botany, 2016, 117, 1187-1196.	2.9	33
33	Impact of organosilicon treatments on the wood-water relationship of solid wood. Holzforschung, 2010, 64, .	1.9	32
34	Charcoal identification in species-rich biomes: A protocol for Central Africa optimised for the Mayumbe forest. Review of Palaeobotany and Palynology, 2012, 171, 164-178.	1.5	32
35	Tree-ring analysis of an African long-lived pioneer species as a tool for sustainable forest management. Forest Ecology and Management, 2013, 304, 417-426.	3.2	31
36	Automated classification of wood transverse cross-section micro-imagery from 77 commercial Central-African timber species. Annals of Forest Science, 2017, 74, 1.	2.0	30

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37	The Significance of Accelerated Laboratory Testing Methods Determining the Natural Durability of Wood. Holzforschung, 1999, 53, 449-458.	1.9	29
38	Quantitative measurement of the penetration of water-borne coatings in wood with confocal lasermicroscopy and image analysis. European Journal of Wood and Wood Products, 2003, 61, 304-310.	2.9	29
39	Impact of internal structure on water-resistance of plywood studied using neutron radiography and X-ray tomography. Construction and Building Materials, 2014, 73, 171-179.	7.2	28
40	Advanced X-ray CT scanning can boost tree ring research for earth system sciences. Annals of Botany, 2019, 124, 837-847.	2.9	28
41	End-use related physical and mechanical properties of selected fast-growing poplar hybrids (Populus) Tj ETQq1 1 0.784314 rgBT /Over	2.0	27
42	A protocol for automated timber species identification using metabolome profiling. Wood Science and Technology, 2019, 53, 953-965.	3.2	27
43	Experimental and theoretical behavior of exterior wood coatings subjected to artificial weathering. Journal of Coatings Technology Research, 2008, 5, 221-231.	2.5	26
44	Ancient charcoal as a natural archive for paleofire regime and vegetation change in the Mayumbe, Democratic Republic of the Congo. Quaternary Research, 2013, 80, 326-340.	1.7	26
45	Outdoor weathering performance parameters of exterior wood coating systems on tropical hardwood substrates. European Journal of Wood and Wood Products, 2014, 72, 261-272.	2.9	26
46	Charcoalâ€inferred Holocene fire and vegetation history linked to drought periods in the Democratic Republic of Congo. Global Change Biology, 2015, 21, 2296-2308.	9.5	26
47	Fast pyrolysis of mannan-rich ivory nut (Phytelephas aequatorialis) to valuable biorefinery products. Chemical Engineering Journal, 2019, 373, 446-457.	12.7	25
48	Variability in fibre and parenchyma cell walls of temperate and tropical bamboo culms of different ages. Wood Science and Technology, 2006, 40, 477-492.	3.2	24
49	Microstructure of chemically modified wood using X-ray computed tomography in relation to wetting properties. Holzforschung, 2017, 71, 119-128.	1.9	22
50	The stability enigma of hydraulic vulnerability curves: addressing the link between hydraulic conductivity and drought-induced embolism. Tree Physiology, 2019, 39, 1646-1664.	3.1	22
51	Combining electrical resistance and 3-D X-ray computed tomography for moisture distribution measurements in wood products exposed in dynamic moisture conditions. Building and Environment, 2013, 67, 250-259.	6.9	21
52	Enrichment of enzymatically mineralized gellan gum hydrogels with phlorotannin-rich Ecklonia cava extract Seanol ^{Â®} to endow antibacterial properties and promote mineralization. Biomedical Materials (Bristol), 2016, 11, 045015.	3.3	21
53	Comparison of species classification models of mass spectrometry data: Kernel Discriminant Analysis vs Random Forest; A case study of Afrormosia (<scp>Pericopsis elata</scp> (Harms) Meeuwen). Rapid Communications in Mass Spectrometry, 2017, 31, 1582-1588.	1.5	21
54	Nondestructive research on wooden musical instruments: From macro- to microscale imaging with lab-based X-ray CT systems. Journal of Cultural Heritage, 2017, 27, S78-S87.	3.3	21

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55	Methodology to assess both the efficacy and ecotoxicology of preservative-treated and modified wood. Annals of Forest Science, 2008, 65, 504-504.	2.0	20
56	How Tightly Linked Are Pericopsis elata (Fabaceae) Patches to Anthropogenic Disturbances in Southeastern Cameroon?. Forests, 2015, 6, 293-310.	2.1	20
57	Effect of a two-stage heat treatment process on the mechanical properties of full construction timber. Wood Material Science and Engineering, 2007, 2, 138-146.	2.3	19
58	Analysis of spatio-temporal fungal growth dynamics under different environmental conditions. IMA Fungus, 2019, 10, 7.	3.8	19
59	Potential of X-ray computed tomography for 3D anatomical analysis and microdensitometrical assessment in wood research with focus on wood modification. International Wood Products Journal, 2013, 4, 183-190.	1.1	18
60	X-ray computed microtomography characterizes the wound effect that causes sap flow underestimation by thermal dissipation sensors. Tree Physiology, 2018, 38, 287-301.	3.1	18
61	Wood Density Profiles and Their Corresponding Tissue Fractions in Tropical Angiosperm Trees. Forests, 2018, 9, 763.	2.1	18
62	The effect of water sorption/desorption on fatigue deflection of OSB. Construction and Building Materials, 2019, 223, 1196-1203.	7.2	18
63	Forest structure and soil fertility determine internal stem morphology of Pedunculate oak: a modelling approach using boosted regression trees. European Journal of Forest Research, 2012, 131, 609-622.	2.5	17
64	Penetration and Effectiveness of Micronized Copper in Refractory Wood Species. PLoS ONE, 2016, 11, e0163124.	2.5	17
65	High-resolution X-ray imaging and analysis of coatings on and in wood. Journal of Coatings Technology Research, 2010, 7, 271-277.	2.5	16
66	Investigation on wax-impregnated wood. Part 1: Microscopic observations and 2D X-ray imaging of distinct wax types. Holzforschung, 2010, 64, .	1.9	16
67	Complementary Imaging Techniques for Charcoal Examination and Identification. IAWA Journal, 2013, 34, 147-168.	2.7	16
68	Dendrochronological Potential in a Semi-Deciduous Rainforest: The Case of Pericopsis elata in Central Africa. Forests, 2014, 5, 3087-3106.	2.1	16
69	Evaluating the robustness of three ring-width measurement methods for growth release reconstruction. Dendrochronologia, 2017, 46, 67-76.	2.2	16
70	Investigation on wax-impregnated wood. Part 2: Study of void spaces filled with air by He pycnometry, Hg intrusion porosimetry, and 3D X-ray imaging. Holzforschung, 2010, 64, .	1.9	15
71	Using X-ray CT based tree-ring width data for tree growth trend analysis. Dendrochronologia, 2017, 44, 66-75.	2.2	15
72	Composition, distribution and supposed origin of mineral inclusions in sessile oak wood â€“ consequences for microdensitometrical analysis. Annals of Forest Science, 2007, 64, 11-19.	2.0	14

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73	On the drying potential of cavity ventilation behind brick veneer cladding: A detailed field study. Building and Environment, 2017, 123, 133-145.	6.9	14
74	Deep learning segmentation of wood fiber bundles in fiberboards. Composites Science and Technology, 2022, 221, 109287.	7.8	14
75	Image processing as a tool for assessment and analysis of blue stain discolouration of coated wood. International Biodeterioration and Biodegradation, 2005, 56, 178-187.	3.9	13
76	Potential contribution of organosilicon compounds to reduced leaching of biocides in wood protection. Annals of Forest Science, 2009, 66, 209-209.	2.0	13
77	Hierarchical structure of juvenile hybrid aspen xylem revealed using X-ray scattering and microtomography. Trees - Structure and Function, 2012, 26, 1793-1804.	1.9	13
78	Assessment of blue-stain resistance according to the EN 152 and a reverse test method using visual and computer-aided techniques. International Biodeterioration and Biodegradation, 2006, 57, 229-238.	3.9	12
79	Combined evaluation of durability and ecotoxicity: A case study on furfurylated wood. Wood Material Science and Engineering, 2009, 4, 30-36.	2.3	12
80	Preventive action of organosilicon treatments against disfigurement of wood under laboratory and outdoor conditions. International Biodeterioration and Biodegradation, 2009, 63, 1093-1101.	3.9	12
81	Investigating the interaction between internal structural changes and water sorption of MDF and OSB using X-ray computed tomography. Wood Science and Technology, 2018, 52, 701-716.	3.2	12
82	Classification of uncoated plywood based on moisture dynamics. Construction and Building Materials, 2018, 158, 814-822.	7.2	12
83	Rate of forest recovery after fire exclusion on anthropogenic savannas in the Democratic Republic of Congo. Biological Conservation, 2019, 233, 118-130.	4.1	12
84	Density and density profile changes in birch and spruce caused by thermo-hydro treatment measured by X-ray computed tomography. Wood Science and Technology, 2019, 53, 491-504.	3.2	12
85	Treatment of wood with atmospheric plasma discharge: study of the treatment process, dynamic wettability and interactions with a waterborne coating. Holzforschung, 2021, 75, 603-613.	1.9	12
86	Characterisation of steroids in wooden crates of veal calves by accelerated solvent extraction (ASEÂ®) and ultra-high performance liquid chromatography coupled to triple quadrupole mass spectrometry (U-HPLC-QqQ-MS-MS). Analytical and Bioanalytical Chemistry, 2010, 397, 345-355.	3.7	11
87	Cork structural discontinuities studied with X-ray microtomography. Holzforschung, 2016, 70, 87-94.	1.9	11
88	Moisture behavior and structural changes of plywood during outdoor exposure. European Journal of Wood and Wood Products, 2016, 74, 211-221.	2.9	11
89	Ca:Mg:Zn:CO 3 and Ca:Mg:CO 3 â€"tri- and bi-elemental carbonate microparticles for novel injectable self-gelling hydrogelâ€"microparticle composites for tissue regeneration. Biomedical Materials (Bristol), 2017, 12, 025015.	3.3	11
90	Cambial pinning relates wood anatomy to ecophysiology in the African tropical tree Maesopsis eminii. Tree Physiology, 2018, 38, 232-242.	3.1	11

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91	Modelling moisture conditions behind brick veneer cladding: Verification of common approaches by field measurements. Journal of Building Physics, 2020, 44, 95-120.	2.4	11
92	Chemical Fingerprinting of Wood Sampled along a Pith-to-Bark Gradient for Individual Comparison and Provenance Identification. Forests, 2020, 11, 107.	2.1	11
93	Biological durability of wood in relation to end-useâ€"Part 2: The use of an accelerated outdoor L-joint performance test. European Journal of Wood and Wood Products, 2003, 61, 125-132.	2.9	10
94	Determining the effect of wind on the ballistic flight of fertiliser particles. Biosystems Engineering, 2016, 151, 425-434.	4.3	10
95	Wood anatomy variability under contrasted environmental conditions of common deciduous and evergreen species from central African forests. Trees - Structure and Function, 2019, 33, 893-909.	1.9	10
96	Investigating water transport in MDF and OSB using a gantry-based X-ray CT scanning system. Wood Science and Technology, 2016, 50, 1197-1211.	3.2	9
97	Exploring life growth patterns in birch (Betula pendula). Scandinavian Journal of Forest Research, 2016, 31, 561-567.	1.4	9
98	A generic platform for hyperspectral mapping of wood. Wood Science and Technology, 2017, 51, 887-907.	3.2	9
99	Influence of Quercus petraea Liebl. wood structure on the permeation of oxygen through wine barrel staves. Holzforschung, 2019, 73, 859-870.	1.9	9
100	The effect of structural changes on the compressive strength of LVL. Wood Science and Technology, 2020, 54, 1253-1267.	3.2	9
101	Cracking the code: real-time monitoring of wood drying and the occurrence of cracks. Wood Science and Technology, 2020, 54, 1029-1049.	3.2	9
102	Understanding the effect of growth ring orientation on the compressive strength perpendicular to the grain of thermally treated wood. Wood Science and Technology, 2021, 55, 1439-1456.	3.2	9
103	Wood natural durability testing under laboratory conditions: results from a round-robin test. European Journal of Wood and Wood Products, 2014, 72, 129-133.	2.9	8
104	Bouldering: an alternative strategy to long-vertical climbing in root-climbing hortensias. Journal of the Royal Society Interface, 2014, 11, 20140611.	3.4	8
105	Durability and efficiency of ink-jet printed TiO2 coatings: Influence of processing temperature. Thin Solid Films, 2014, 556, 160-167.	1.8	8
106	Assessment of wood microstructural changes after one-stage thermo-hydro treatment (THT) by micro X-ray computed tomography. Holzforschung, 2016, 70, 167-177.	1.9	8
107	Cambial activity in the understory of the Mayombe forest, DR Congo. Trees - Structure and Function, 2017, 31, 49-61.	1.9	8
108	Laboratory testing and computer simulation of blue stain growth on and in wood coatings. International Biodeterioration and Biodegradation, 2007, 59, 137-147.	3.9	7

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109	Hygrothermal behaviour of timber frame walls finished with a brick veneer cladding. Energy Procedia, 2017, 132, 363-368.	1.8	7
110	Asynchronous leaf and cambial phenology in a tree species of the Congo Basin requires spaceâ€“time conversion of wood traits. Annals of Botany, 2019, 124, 245-253.	2.9	7
111	Assessing the natural durability of xylarium specimens: mini-block testing and chemical fingerprinting for small-sized samples. Wood Science and Technology, 2020, 54, 981-1000.	3.2	7
112	Understanding the effect of combined thermal treatment and phenolâ€“formaldehyde resin impregnation on the compressive stress of wood. Wood Science and Technology, 2022, 56, 1071-1086.	3.2	7
113	Tree rings show a different climatic response in a managed and a non-managed plantation of teak (Tectona grandis) in West Africa. IAWA Journal, 2015, 36, 409-427.	2.7	6
114	Une forte saisonnalitÃ© du climat et de la phÃ©nologie reproductive dans la forÃªt du Mayombe : lâ€™apport des donnÃ©es historiques de la RÃ©serve de Luki en RÃ©publique dÃ©mocratique du Congo. Bois Et Forets Des Tropiques, 0, 341, 39.	0.2	6
115	Modelling film formation and degradation of semi-transparent exterior wood coatings. Progress in Organic Coatings, 2007, 58, 1-12.	3.9	5
116	The potential of plantations of Terminalia superba Engl. & Diels for wood and biomass production (Mayombe Forest, Democratic Republic of Congo). Annals of Forest Science, 2010, 67, 501-501.	2.0	5
117	Envelope treatment of wood based materials with concentrated organosilicons. European Journal of Wood and Wood Products, 2011, 69, 397-406.	2.9	5
118	A colour assessment methodology for oak wood. Annals of Forest Science, 2012, 69, 939-946.	2.0	5
119	Relating MOE decrease and mass loss due to fungal decay in plywood and MDF using resonalyser and X-ray CT scanning. International Biodeterioration and Biodegradation, 2016, 110, 113-120.	3.9	5
120	Physicochemical monitoring of wood coating degradation related to fungal disfigurement. International Biodeterioration and Biodegradation, 2007, 59, 125-136.	3.9	4
121	Improved wood species identification based on multi-view imagery of the three anatomical planes. Plant Methods, 2022, 18, .	4.3	4
122	Archaeological charcoals as archives for firewood preferences and vegetation composition during the late Holocene in the southern Mayumbe, Democratic Republic of the Congo (DRC). Vegetation History and Archaeobotany, 2014, 23, 591.	2.1	3
123	Micro-CT measurements of within-ring variability in longitudinal hydraulic pathways in Norway spruce. IAWA Journal, 2020, 41, 12-29.	2.7	3
124	Understanding the impact of wood type and moisture on the bonding strength of glued wood. Wood Material Science and Engineering, 2023, 18, 303-313.	2.3	3
125	Modelling Cavity Ventilation Behind Brick Veneer Cladding: How Reliable are the Common Assumptions?. Energy Procedia, 2015, 78, 1467-1477.	1.8	2
126	Investigating plywood behaviour in outdoor conditions. International Wood Products Journal, 2016, 7, 220-224.	1.1	2

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127	Sleeping beauties in materials science: unlocking the value of xylarium specimens in the search for timbers of the future. Holzforschung, 2019, 73, 889-897.	1.9	2
128	Enjeux et amÃ©lioration de la gestion des espÃ¨ces du genre Entandrophragma, arbres africains devenus vulnÃ©rables. Bois Et Forets Des Tropiques, 0, 339, 75.	0.2	2
129	Understanding the mechanical strength and dynamic structural changes of wood-based products using X-ray computed tomography. Wood Material Science and Engineering, 2023, 18, 454-463.	2.3	2