

Michel M Verstraete

List of Publications by Year in descending order

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123
papers

9,994
citations

36303

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all docs

138
docs citations

138
times ranked

8243
citing authors

#	ARTICLE	IF	CITATIONS
1	Parametric Models to Characterize the Phenology of the Lowveld Savanna at Skukuza, South Africa. <i>Remote Sensing</i> , 2020, 12, 3927.	4.0	4
2	Improving the usability of the Multi-angle Imaging SpectroRadiometer (MISR) LIB2 Georectified Radiance Product (2000â€‘present) in land surface applications. <i>Earth System Science Data</i> , 2020, 12, 1321-1346.	9.9	1
3	Replacing missing values in the standard Multi-angle Imaging SpectroRadiometer (MISR) radiometric camera-by-camera cloud mask (RCCM) data product. <i>Earth System Science Data</i> , 2020, 12, 611-628.	9.9	3
4	Handling outliers in model inversion studies: a remote sensing case study using MISR-HR data in South Africa. <i>Southern African Geographical Journal</i> , 2018, 100, 122-139.	1.8	5
5	Differing Responses to Rainfall Suggest More Than One Functional Type of Grassland in South Africa. <i>Remote Sensing</i> , 2018, 10, 2055.	4.0	6
6	Indirect Estimation of Structural Parameters in South African Forests Using MISR-HR and LiDAR Remote Sensing Data. <i>Remote Sensing</i> , 2018, 10, 1537.	4.0	5
7	Canopy Architectural Models in Support of Methods Using Hemispherical Photography. <i>Managing Forest Ecosystems</i> , 2017, , 253-286.	0.9	2
8	Planning for a spaceborne Earth Observation mission: From user expectations to measurement requirements. <i>Environmental Science and Policy</i> , 2015, 54, 419-427.	4.9	12
9	The fourth phase of the radiative transfer model intercomparison (RAMI) exercise: Actual canopy scenarios and conformity testing. <i>Remote Sensing of Environment</i> , 2015, 169, 418-437.	11.0	170
10	The Concept of Essential Climate Variables in Support of Climate Research, Applications, and Policy. <i>Bulletin of the American Meteorological Society</i> , 2014, 95, 1431-1443.	3.3	629
11	Early detection of biomass production deficit hot-spots in semi-arid environment using FAPAR time series and a probabilistic approach. <i>Remote Sensing of Environment</i> , 2014, 142, 57-68.	11.0	25
12	Allometric models for aboveground biomass in dry savanna trees of the Sudan and Sudan-Guinean ecosystems of Southern Senegal. <i>Journal of Forest Research</i> , 2014, 19, 340-347.	1.4	42
13	A phenology-based method to derive biomass production anomalies for food security monitoring in the Horn of Africa. <i>International Journal of Remote Sensing</i> , 2014, 35, 2472-2492.	2.9	52
14	On seeing the wood from the leaves and the role of voxel size in determining leaf area distribution of forests with terrestrial LiDAR. <i>Agricultural and Forest Meteorology</i> , 2014, 184, 82-97.	4.8	196
15	Investigating the Relationship between the Inter-Annual Variability of Satellite-Derived Vegetation Phenology and a Proxy of Biomass Production in the Sahel. <i>Remote Sensing</i> , 2014, 6, 5868-5884.	4.0	32
16	Regional drought monitoring using phenologically tuned biomass production estimates from SPOTVEGETATION FAPAR. , 2013, , .		1
17	Generating 275-m Resolution Land Surface Products From the Multi-Angle Imaging SpectroRadiometer Data. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2012, 50, 3980-3990.	6.3	14
18	Snowy backgrounds enhance the absorption of visible light in forest canopies. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	4.0	3

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19	Exploiting the MODIS albedos with the Two-stream Inversion Package (JRC-TIP): 1. Effective leaf area index, vegetation, and soil properties. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	56
20	Estimating leaf area distribution in savanna trees from terrestrial LiDAR measurements. <i>Agricultural and Forest Meteorology</i> , 2011, 151, 1252-1266.	4.8	202
21	Technical Note: Comparing the effectiveness of recent algorithms to fill and smooth incomplete and noisy time series. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 7905-7923.	4.9	46
22	Towards a global drylands observing system: Observational requirements and institutional solutions. <i>Land Degradation and Development</i> , 2011, 22, 198-213.	3.9	35
23	Scientific concepts for an integrated analysis of desertification. <i>Land Degradation and Development</i> , 2011, 22, 166-183.	3.9	122
24	Global-Scale Comparison of MISR and MODIS Land Surface Albedos. <i>Journal of Climate</i> , 2011, 24, 732-749.	3.2	34
25	Ten years of MISR observations from Terra: Looking back, ahead, and in between. , 2010, , .		3
26	Comparison of MISR and MODIS land surface albedos: Methodology. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	18
27	Detailed structural characterisation of the savanna flux site at Skukuza, South Africa. , 2009, , .		3
28	On the need to observe vegetation canopies in the near-infrared to estimate visible light absorption. <i>Remote Sensing of Environment</i> , 2009, 113, 10-23.	11.0	64
29	The structural and radiative consistency of three-dimensional tree reconstructions from terrestrial lidar. <i>Remote Sensing of Environment</i> , 2009, 113, 1067-1081.	11.0	247
30	Climate and desertification: looking at an old problem through new lenses. <i>Frontiers in Ecology and the Environment</i> , 2009, 7, 421-428.	4.0	93
31	Using MISR full spatial resolution level 1B2 data to characterize the savannah environment around the Skukuza CSIR research site. , 2009, , .		0
32	Lessons Learned from IPCC AR4: Scientific Developments Needed to Understand, Predict, and Respond to Climate Change. <i>Bulletin of the American Meteorological Society</i> , 2009, 90, 497-514.	3.3	47
33	The RAMI On-line Model Checker (ROMC): A web-based benchmarking facility for canopy reflectance models. <i>Remote Sensing of Environment</i> , 2008, 112, 1144-1150.	11.0	85
34	Towards a high spatial resolution limit for pixel-based interpretations of optical remote sensing data. <i>Advances in Space Research</i> , 2008, 41, 1724-1732.	2.6	10
35	An automatic procedure to identify key vegetation phenology events using the JRC-FAPAR products. <i>Advances in Space Research</i> , 2008, 41, 1773-1783.	2.6	43
36	Diagnostic assessment of European gross primary production. <i>Global Change Biology</i> , 2008, 14, 2349-2364.	9.5	86

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37	Partitioning the solar radiant fluxes in forest canopies in the presence of snow. Journal of Geophysical Research, 2008, 113, .	3.3	41
38	A climate model-based review of drought in the Sahel: Desertification, the re-greening and climate change. Global and Planetary Change, 2008, 64, 119-128.	3.5	152
39	Climate change and desertification: Where do we stand, where should we go?. Global and Planetary Change, 2008, 64, 105-110.	3.5	34
40	Third Radiation Transfer Model Intercomparison (RAMI) exercise: Documenting progress in canopy reflectance models. Journal of Geophysical Research, 2007, 112, .	3.3	193
41	Retrieving surface parameters for climate models from Moderate Resolution Imaging Spectroradiometer (MODIS)-Multiangle Imaging Spectroradiometer (MISR) albedo products. Journal of Geophysical Research, 2007, 112, .	3.3	66
42	Evaluation of the MERIS/ENVISAT FAPAR product. Advances in Space Research, 2007, 39, 105-115.	2.6	105
43	Application to MISR land products of an RPV model inversion package using adjoint and Hessian codes. Remote Sensing of Environment, 2007, 107, 362-375.	11.0	60
44	Simplifying the interaction of land surfaces with radiation for relating remote sensing products to climate models. Journal of Geophysical Research, 2006, 111, .	3.3	106
45	Evaluation of fraction of absorbed photosynthetically active radiation products for different canopy radiation transfer regimes: Methodology and results using Joint Research Center products derived from SeaWiFS against ground-based estimations. Journal of Geophysical Research, 2006, 111, .	3.3	144
46	FLuorescence EXplorer (FLEX): an optimised payload to map vegetation photosynthesis from space. , 2006, , .		9
47	Monitoring the photosynthetic activity of vegetation from remote sensing data. Advances in Space Research, 2006, 38, 2196-2202.	2.6	47
48	Horizontal radiation transport in 3-D forest canopies at multiple spatial resolutions: Simulated impact on canopy absorption. Remote Sensing of Environment, 2006, 103, 379-397.	11.0	48
49	Rayspread: A Virtual Laboratory for Rapid BRDF Simulations Over 3-D Plant Canopies. , 2006, , 211-231.		17
50	Coupling Diffuse Sky Radiation and Surface Albedo. Journals of the Atmospheric Sciences, 2005, 62, 2580-2591.	1.7	81
51	Using 1-D models to interpret the reflectance anisotropy of 3-D canopy targets: issues and caveats. IEEE Transactions on Geoscience and Remote Sensing, 2005, 43, 2008-2017.	6.3	46
52	Toward a direct comparison of field and laboratory goniometer measurements. IEEE Transactions on Geoscience and Remote Sensing, 2005, 43, 2666-2675.	6.3	22
53	The state of vegetation in Europe following the 2003 drought. International Journal of Remote Sensing, 2005, 26, 2013-2020.	2.9	86
54	Canopy Structure Parameters Derived from Multi-Angular Remote Sensing Data for Terrestrial Carbon Studies. Climatic Change, 2004, 67, 403-415.	3.6	107

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55	Synergy between 1-D and 3-D radiation transfer models to retrieve vegetation canopy properties from remote sensing data. <i>Journal of Geophysical Research</i> , 2004, 109, n/a-n/a.	3.3	45
56	Understanding vegetation response to climate variability from space: recent advances towards the SPECTRA Mission. , 2004, , .		1
57	Characterization of land surface structure using multidirectional MISR/Terra observations. , 2004, 5232, 11.		0
58	Analysis of multi-angular data to retrieve indicators of ecosystem structure. , 2004, 5238, 1.		0
59	Monitoring FAPAR over land surfaces with remote sensing data. , 2004, , .		2
60	Traceable radiometry underpinning terrestrial- and helio-studies (TRUTHS). <i>Advances in Space Research</i> , 2003, 32, 2253-2261.	2.6	33
61	Traceable radiometry underpinning terrestrial- and helio-studies (TRUTHS). , 2003, , .		5
62	Optimal merging of LAC and GAC data from SeaWiFS. <i>International Journal of Remote Sensing</i> , 2002, 23, 801-807.	2.9	23
63	Relationship between surface reflectance in the visible and mid-IR used in MODIS aerosol algorithm - theory. <i>Geophysical Research Letters</i> , 2002, 29, 31-1-31-4.	4.0	79
64	Uniqueness of multiangular measurements. II. Joint retrieval of vegetation structure and photosynthetic activity from MISR. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2002, 40, 1574-1592.	6.3	59
65	Uniqueness of multiangular measurements. I. An indicator of subpixel surface heterogeneity from MISR. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2002, 40, 1560-1573.	6.3	110
66	Note on "An improved model of surface BRDF-atmospheric coupled radiation". <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2002, 40, 1637-1639.	6.3	23
67	Foreword to special section on MISR. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2002, 40, 1447-1448.	6.3	6
68	Exploitation of Surface Albedo Derived From the Meteosat Data to Characterize Land Surface Changes. <i>Advances in Global Change Research</i> , 2001, , 51-67.	1.6	0
69	Detection and characterization of boreal coniferous forests from remote sensing data. <i>Journal of Geophysical Research</i> , 2001, 106, 33405-33419.	3.3	15
70	Radiation transfer model intercomparison (RAMI) exercise. <i>Journal of Geophysical Research</i> , 2001, 106, 11937-11956.	3.3	138
71	Introduction to special section: Modeling, measurement, and exploitation of anisotropy in the radiation field. <i>Journal of Geophysical Research</i> , 2001, 106, 11903-11907.	3.3	6
72	Characterization of surface heterogeneity detected at the MISR/TERRA subpixel scale. <i>Geophysical Research Letters</i> , 2001, 28, 4639-4642.	4.0	48

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73	Environmental information extraction from satellite remote sensing data. Geophysical Monograph Series, 2000, , 125-137.	0.1	5
74	The impact of multiangular measurements on the accuracy of land surface Albedo retrieval: Preliminary results for the proposed ESA LSPIM mission. International Journal of Remote Sensing, 2000, 19, 191-204.	1.0	3
75	Advanced vegetation indices optimized for up-coming sensors: Design, performance, and applications. IEEE Transactions on Geoscience and Remote Sensing, 2000, 38, 2489-2505.	6.3	189
76	Surface albedo retrieval from Meteosat: 1. Theory. Journal of Geophysical Research, 2000, 105, 18099-18112.	3.3	128
77	Surface albedo retrieval from Meteosat: 2. Applications. Journal of Geophysical Research, 2000, 105, 18113-18134.	3.3	73
78	Potential of multiangular spectral measurements to characterize land surfaces: Conceptual approach and exploratory application. Journal of Geophysical Research, 2000, 105, 17539-17549.	3.3	35
79	Do man-made fires affect Earth's surface reflectance at continental scales?. Eos, 2000, 81, 381.	0.1	19
80	The Contribution of Remote Sensing Technologies and Algorithms to Land Surface Processes Studies. Advances in Global Change Research, 2000, , 71-76.	1.6	0
81	MERIS potential for land applications. International Journal of Remote Sensing, 1999, 20, 1747-1756.	2.9	45
82	The MERIS Global Vegetation Index (MGVI): Description and preliminary application. International Journal of Remote Sensing, 1999, 20, 1917-1927.	2.9	161
83	Designing optimal spectral indices: A feasibility and proof of concept study. International Journal of Remote Sensing, 1999, 20, 1853-1873.	2.9	94
84	Multi-angle Imaging SpectroRadiometer (MISR) instrument description and experiment overview. IEEE Transactions on Geoscience and Remote Sensing, 1998, 36, 1072-1087.	6.3	855
85	Techniques for the retrieval of aerosol properties over land and ocean using multiangle imaging. IEEE Transactions on Geoscience and Remote Sensing, 1998, 36, 1212-1227.	6.3	358
86	Determination of land and ocean reflective, radiative, and biophysical properties using multiangle imaging. IEEE Transactions on Geoscience and Remote Sensing, 1998, 36, 1266-1281.	6.3	160
87	Raytran: a Monte Carlo ray-tracing model to compute light scattering in three-dimensional heterogeneous media. IEEE Transactions on Geoscience and Remote Sensing, 1998, 36, 493-505.	6.3	204
88	The effect of soil anisotropy on the radiance field emerging from vegetation canopies. Geophysical Research Letters, 1998, 25, 797-800.	4.0	20
89	Modeling the Scattering of Light by Homogeneous Vegetation in Optical Remote Sensing. Journals of the Atmospheric Sciences, 1998, 55, 137-150.	1.7	23
90	A semidiscrete model for the scattering of light by vegetation. Journal of Geophysical Research, 1997, 102, 9431-9446.	3.3	129

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91	Theoretical limits to the estimation of the leaf area index on the basis of visible and near-infrared remote sensing data. IEEE Transactions on Geoscience and Remote Sensing, 1997, 35, 1438-1445.	6.3	104
92	Three-dimensional radiation transfer modeling in a dicotyledon leaf. Applied Optics, 1996, 35, 6585.	2.1	146
93	Designing optimal spectral indexes for remote sensing applications. IEEE Transactions on Geoscience and Remote Sensing, 1996, 34, 1254-1265.	6.3	214
94	Potential and limitations of information extraction on the terrestrial biosphere from satellite remote sensing. Remote Sensing of Environment, 1996, 58, 201-214.	11.0	197
95	<title>Evaluation of the capability of BRDF models to retrieve structural information on the observed target as described by a three-dimensional ray tracing code</title>. , 1995, 2314, 9.		4
96	Optical remote sensing of vegetation: Modeling, caveats, and algorithms. Remote Sensing of Environment, 1995, 51, 169-188.	11.0	230
97	The effect of surface anisotropy and viewing geometry on the estimation of NDVI from AVHRR. International Journal of Remote Sensing, 1995, 12, 3-27.	1.0	45
98	Evaluation of the performance of various vegetation indices to retrieve vegetation cover from AVHRR data. International Journal of Remote Sensing, 1994, 10, 265-284.	1.0	124
99	Scientific Issues and Instrumental Opportunities in Remote Sensing and High Resolution Spectrometry. Euro Courses Remote Sensing, 1994, , 25-38.	1.0	5
100	Retrieving Canopy Properties from Remote Sensing Measurements. Euro Courses Remote Sensing, 1994, , 109-123.	1.0	9
101	Biosphere Modeling for Climate Studies. , 1994, , 153-174.		0
102	Coupled surface-atmosphere reflectance (CSAR) model: 1. Model description and inversion on synthetic data. Journal of Geophysical Research, 1993, 98, 20779-20789.	3.3	107
103	Coupled surface-atmosphere reflectance (CSAR) model: 2. Semiempirical surface model usable with NOAA advanced very high resolution radiometer data. Journal of Geophysical Research, 1993, 98, 20791-20801.	3.3	357
104	Modeling Spectralon's bidirectional reflectance for in-flight calibration of Earth-orbiting sensors. , 1993, , .		3
105	Towards a quantitative interpretation of vegetation indices Part 1: Biophysical canopy properties and classical indices. International Journal of Remote Sensing, 1993, 7, 127-150.	1.0	36
106	GEMI: a non-linear index to monitor global vegetation from satellites. Plant Ecology, 1992, 101, 15-20.	1.2	530
107	On the design and validation of surface bidirectional reflectance and albedo models. Remote Sensing of Environment, 1992, 41, 155-167.	11.0	83
108	Extracting information on surface properties from bidirectional reflectance measurements. Journal of Geophysical Research, 1991, 96, 2865-2874.	3.3	81

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109	Desertification and global change. <i>Plant Ecology</i> , 1991, 91, 3-13.	1.2	43
110	The potential contribution of satellite remote sensing to the understanding of arid lands processes. <i>Plant Ecology</i> , 1991, 91, 59-72.	1.2	31
111	A physical model of the bidirectional reflectance of vegetation canopies: 1. Theory. <i>Journal of Geophysical Research</i> , 1990, 95, 11755-11765.	3.3	184
112	A physical model of the bidirectional reflectance of vegetation canopies: 2. Inversion and validation. <i>Journal of Geophysical Research</i> , 1990, 95, 11767-11775.	3.3	94
113	The representation of continental surface processes in atmospheric models. <i>Reviews of Geophysics</i> , 1990, 28, 35-52.	23.0	112
114	Relating surface albedos in GCM to remotely sensed data. <i>Agricultural and Forest Meteorology</i> , 1990, 52, 109-131.	4.8	66
115	A physical model for predicting bidirectional reflectances over bare soil. <i>Remote Sensing of Environment</i> , 1989, 27, 273-288.	11.0	153
116	Land Surface Processes in Climate Models: Status and Prospects. , 1989, , 321-340.		16
117	Radiation transfer in plant canopies: Scattering of solar radiation and canopy reflectance. <i>Journal of Geophysical Research</i> , 1988, 93, 9483-9494.	3.3	16
118	Radiation transfer in plant canopies: Transmission of direct solar radiation and the role of leaf orientation. <i>Journal of Geophysical Research</i> , 1987, 92, 10985-10995.	3.3	46
119	Environmental Warfare: A Technical, Legal and Policy Appraisal, Edited by Arthur H. Westing. Stockholm International Peace Research Institute, Bergshamra, S-171 73 Solna, Sweden, and Taylor & Francis, London & Philadelphia: xiii + 107 pp., 23.7 Å– 15.6 Å– 1.2 cm (also in paperback), [no price indicated], 1984. <i>Environmental Conservation</i> , 1986, 13, 89-90.	1.3	0
120	Climate and desertification â€” Editorial. <i>Climatic Change</i> , 1986, 9, 1-4.	3.6	2
121	Defining desertification: A review. <i>Climatic Change</i> , 1986, 9, 5-18.	3.6	87
122	Comment on the paper â€”Relative role of atmosphere and ocean in the global heat budget: Tropical atlantic and eastern pacificâ€™™ by Stefan Hasternath. <i>Quarterly Journal of the Royal Meteorological Society</i> , 1978, 104, 809-812.	2.7	0
123	Comment on the paper 'Relative role of atmosphere and ocean in the global heat budget: tropical atlantic and Eastern Pacific'by Stefan Hastenrath (Q.J., 1977, 103, 519-526). <i>Quarterly Journal of the Royal Meteorological Society</i> , 1978, 104, 809-812.	2.7	0