

Jean-Philippe Gastellu-Etchegorry

List of Publications by Year in descending order

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119
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101543

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66
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120
all docs

120
docs citations

120
times ranked

3811
citing authors

#	ARTICLE	IF	CITATIONS
1	Modeling radiative transfer in heterogeneous 3-D vegetation canopies. Remote Sensing of Environment, 1996, 58, 131-156.	11.0	373
2	Remote sensing of solar-induced chlorophyll fluorescence (SIF) in vegetation: 50 years of progress. Remote Sensing of Environment, 2019, 231, 111177.	11.0	372
3	Quantifying Vegetation Biophysical Variables from Imaging Spectroscopy Data: A Review on Retrieval Methods. Surveys in Geophysics, 2019, 40, 589-629.	4.6	265
4	Discrete Anisotropic Radiative Transfer (DART 5) for Modeling Airborne and Satellite Spectroradiometer and LIDAR Acquisitions of Natural and Urban Landscapes. Remote Sensing, 2015, 7, 1667-1701.	4.0	234
5	The fourth phase of the radiative transfer model intercomparison (RAMI) exercise: Actual canopy scenarios and conformity testing. Remote Sensing of Environment, 2015, 169, 418-437.	11.0	170
6	DART: Recent Advances in Remote Sensing Data Modeling With Atmosphere, Polarization, and Chlorophyll Fluorescence. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2017, 10, 2640-2649.	4.9	146
7	Retrieval of spruce leaf chlorophyll content from airborne image data using continuum removal and radiative transfer. Remote Sensing of Environment, 2013, 131, 85-102.	11.0	144
8	Simulating imaging spectrometer data: 3D forest modeling based on LiDAR and in situ data. Remote Sensing of Environment, 2014, 152, 235-250.	11.0	118
9	A Modeling Approach for Studying Forest Chlorophyll Content. Remote Sensing of Environment, 2000, 71, 226-238.	11.0	111
10	Downscaling of solar-induced chlorophyll fluorescence from canopy level to photosystem level using a random forest model. Remote Sensing of Environment, 2019, 231, 110772.	11.0	109
11	The fourth radiation transfer model intercomparison (RAMI-IV): Proficiency testing of canopy reflectance models with ISO 1528. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6869-6890.	3.3	102
12	LESS: Large-Scale remote sensing data and image simulation framework over heterogeneous 3D scenes. Remote Sensing of Environment, 2019, 221, 695-706.	11.0	99
13	Estimating leaf mass per area and equivalent water thickness based on leaf optical properties: Potential and limitations of physical modeling and machine learning. Remote Sensing of Environment, 2019, 231, 110959.	11.0	92
14	Modeling BRF and Radiation Regime of Boreal and Tropical Forests. Remote Sensing of Environment, 1999, 68, 281-316.	11.0	91
15	A review of earth surface thermal radiation directionality observing and modeling: Historical development, current status and perspectives. Remote Sensing of Environment, 2019, 232, 111304.	11.0	91
16	The RAMI On-line Model Checker (ROMC): A web-based benchmarking facility for canopy reflectance models. Remote Sensing of Environment, 2008, 112, 1144-1150.	11.0	85
17	Sensitivity of Texture of High Resolution Images of Forest to Biophysical and Acquisition Parameters. Remote Sensing of Environment, 1998, 65, 61-85.	11.0	83
18	Estimation of 3D vegetation density with Terrestrial Laser Scanning data using voxels. A sensitivity analysis of influencing parameters. Remote Sensing of Environment, 2017, 191, 373-388.	11.0	81

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19	The variation of apparent crown size and canopy heterogeneity across lowland Amazonian forests. <i>Global Ecology and Biogeography</i> , 2010, 19, 72-84.	5.8	79
20	Urban energy exchanges monitoring from space. <i>Scientific Reports</i> , 2018, 8, 11498.	3.3	75
21	Directional Viewing Effects on Satellite Land Surface Temperature Products Over Sparse Vegetation Canopies—A Multisensor Analysis. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2013, 10, 1464-1468.	3.1	69
22	3D modeling of satellite spectral images, radiation budget and energy budget of urban landscapes. <i>Meteorology and Atmospheric Physics</i> , 2008, 102, 187-207.	2.0	65
23	Simulation of satellite, airborne and terrestrial LiDAR with DART (I): Waveform simulation with quasi-Monte Carlo ray tracing. <i>Remote Sensing of Environment</i> , 2016, 184, 418-435.	11.0	58
24	Radiative transfer modeling in the Earth's Atmosphere system with DART model. <i>Remote Sensing of Environment</i> , 2013, 139, 149-170.	11.0	50
25	A canopy radiative transfer scheme with explicit FAPAR for the interactive vegetation model ISBA—Impact on carbon fluxes. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2013, 118, 888-903.	3.0	50
26	Toward a general tropical forest biomass prediction model from very high resolution optical satellite images. <i>Remote Sensing of Environment</i> , 2017, 200, 140-153.	11.0	49
27	Assessing the effects of the clumping phenomenon on BRDF of a maize crop based on 3D numerical scenes using DART model. <i>Agricultural and Forest Meteorology</i> , 2008, 148, 1341-1352.	4.8	46
28	Recovery of forest canopy characteristics through inversion of a complex 3D model. <i>Remote Sensing of Environment</i> , 2002, 79, 320-328.	11.0	45
29	An interpolation procedure for generalizing a look-up table inversion method. <i>Remote Sensing of Environment</i> , 2003, 87, 55-71.	11.0	45
30	Retrieving structural and chemical properties of individual tree crowns in a highly diverse tropical forest with 3D radiative transfer modeling and imaging spectroscopy. <i>Remote Sensing of Environment</i> , 2018, 211, 276-291.	11.0	45
31	A modeling approach to assess the robustness of spectrometric predictive equations for canopy chemistry. <i>Remote Sensing of Environment</i> , 2001, 76, 1-15.	11.0	42
32	Assessment of Workflow Feature Selection on Forest LAI Prediction with Sentinel-2A MSI, Landsat 7 ETM+ and Landsat 8 OLI. <i>Remote Sensing</i> , 2020, 12, 915.	4.0	41
33	Simulation of satellite, airborne and terrestrial LiDAR with DART (II): ALS and TLS multi-pulse acquisitions, photon counting, and solar noise. <i>Remote Sensing of Environment</i> , 2016, 184, 454-468.	11.0	40
34	Investigating the Utility of Wavelet Transforms for Inverting a 3-D Radiative Transfer Model Using Hyperspectral Data to Retrieve Forest LAI. <i>Remote Sensing</i> , 2013, 5, 2639-2659.	4.0	39
35	An LUT-Based Inversion of DART Model to Estimate Forest LAI from Hyperspectral Data. <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> , 2015, 8, 3147-3160.	4.9	38
36	A new approach of direction discretization and oversampling for 3D anisotropic radiative transfer modeling. <i>Remote Sensing of Environment</i> , 2013, 135, 213-223.	11.0	37

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37	Simulating solar-induced chlorophyll fluorescence in a boreal forest stand reconstructed from terrestrial laser scanning measurements. <i>Remote Sensing of Environment</i> , 2019, 232, 111274.	11.0	37
38	Discriminating irrigated and rainfed olive orchards with thermal ASTER imagery and DART 3D simulation. <i>Agricultural and Forest Meteorology</i> , 2009, 149, 962-975.	4.8	36
39	A novel method to obtain three-dimensional urban surface temperature from ground-based thermography. <i>Remote Sensing of Environment</i> , 2018, 215, 268-283.	11.0	36
40	Variability and Uncertainty Challenges in Scaling Imaging Spectroscopy Retrievals and Validations from Leaves Up to Vegetation Canopies. <i>Surveys in Geophysics</i> , 2019, 40, 631-656.	4.6	35
41	An assessment study of three indirect methods for estimating leaf area density and leaf area index of individual trees. <i>Agricultural and Forest Meteorology</i> , 2020, 292-293, 108101.	4.8	33
42	Uncertainty analysis of computational methods for deriving sensible heat flux values from scintillometer measurements. <i>Atmospheric Measurement Techniques</i> , 2009, 2, 741-753.	3.1	33
43	Amazon forest structure generates diurnal and seasonal variability in light utilization. <i>Biogeosciences</i> , 2016, 13, 2195-2206.	3.3	32
44	Modeling BRF and Radiation Regime of Boreal and Tropical Forest. <i>Remote Sensing of Environment</i> , 1999, 68, 317-340.	11.0	31
45	Drivers of shortwave radiation fluxes in Arctic tundra across scales. <i>Remote Sensing of Environment</i> , 2017, 193, 86-102.	11.0	31
46	Simulating images of passive sensors with finite field of view by coupling 3-D radiative transfer model and sensor perspective projection. <i>Remote Sensing of Environment</i> , 2015, 162, 169-185.	11.0	29
47	Using the Negative Soil Adjustment Factor of Soil Adjusted Vegetation Index (SAVI) to Resist Saturation Effects and Estimate Leaf Area Index (LAI) in Dense Vegetation Areas. <i>Sensors</i> , 2021, 21, 2115.	3.8	28
48	Modeling the angular effect of MODIS LST in urban areas: A case study of Toulouse, France. <i>Remote Sensing of Environment</i> , 2021, 257, 112361.	11.0	27
49	A simple anisotropic reflectance model for homogeneous multilayer canopies. <i>Remote Sensing of Environment</i> , 1996, 57, 22-38.	11.0	26
50	Imaging spectrometer based on an acousto-optic tunable filter. <i>Review of Scientific Instruments</i> , 1998, 69, 2859-2867.	1.3	25
51	Influence of 3D Spruce Tree Representation on Accuracy of Airborne and Satellite Forest Reflectance Simulated in DART. <i>Forests</i> , 2019, 10, 292.	2.1	25
52	The definition of remotely sensed reflectance quantities suitable for rugged terrain. <i>Remote Sensing of Environment</i> , 2019, 225, 403-415.	11.0	25
53	Characterization of Remote Sensing Albedo Over Sloped Surfaces Based on DART Simulations and In Situ Observations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 8599-8622.	3.3	24
54	A general framework of kernel-driven modeling in the thermal infrared domain. <i>Remote Sensing of Environment</i> , 2021, 252, 112157.	11.0	24

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55	Modeling Small-Footprint Airborne Lidar-Derived Estimates of Gap Probability and Leaf Area Index. <i>Remote Sensing</i> , 2020, 12, 4.	4.0	22
56	Discrete anisotropic radiative transfer modelling of solar-induced chlorophyll fluorescence: Structural impacts in geometrically explicit vegetation canopies. <i>Remote Sensing of Environment</i> , 2021, 263, 112564.	11.0	22
57	DART-Lux: An unbiased and rapid Monte Carlo radiative transfer method for simulating remote sensing images. <i>Remote Sensing of Environment</i> , 2022, 274, 112973.	11.0	22
58	Assessing impacts of canopy 3D structure on chlorophyll fluorescence radiance and radiative budget of deciduous forest stands using DART. <i>Remote Sensing of Environment</i> , 2021, 265, 112673.	11.0	21
59	Radiative transfer model for simulating high-resolution satellite images. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2001, 39, 1922-1926.	6.3	20
60	Evaluation of Four Kernel-Driven Models in the Thermal Infrared Band. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2019, 57, 5456-5475.	6.3	19
61	Canopy polarized BRDF simulation based on non-stationary Monte Carlo 3-D vector RT modeling. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2017, 189, 149-167.	2.3	18
62	Atmospheric and emissivity corrections for ground-based thermography using 3D radiative transfer modelling. <i>Remote Sensing of Environment</i> , 2020, 237, 111524.	11.0	18
63	Modelling of three-dimensional, diurnal light extinction in two contrasting forests. <i>Agricultural and Forest Meteorology</i> , 2021, 296, 108230.	4.8	18
64	Accurate and fast simulation of remote sensing images at top of atmosphere with DART-Lux. <i>Remote Sensing of Environment</i> , 2021, 256, 112311.	11.0	18
65	Monitoring Forest Phenology and Leaf Area Index with the Autonomous, Low-Cost Transmittance Sensor PASTiS-57. <i>Remote Sensing</i> , 2018, 10, 1032.	4.0	17
66	Investigating the impact of overlying vegetation canopy structures on fire radiative power (FRP) retrieval through simulation and measurement. <i>Remote Sensing of Environment</i> , 2018, 217, 158-171.	11.0	17
67	A modeling approach of PAR environment in a tropical rain forest in Sumatra: application to remote sensing. <i>Ecological Modelling</i> , 1998, 108, 237-264.	2.5	15
68	Seasonal and interannual variations of the sea surface temperatures (SST) in the Banda and Arafura Sea area. <i>Journal of Sea Research</i> , 1990, 25, 425-429.	1.0	14
69	A model-based performance test for forest classifiers on remote-sensing imagery. <i>Forest Ecology and Management</i> , 2009, 257, 23-37.	3.2	14
70	DART radiative transfer modelling for sloping landscapes. <i>Remote Sensing of Environment</i> , 2020, 247, 111902.	11.0	14
71	Building a Forward-Mode Three-Dimensional Reflectance Model for Topographic Normalization of High-Resolution (1m ²) Imagery: Validation Phase in a Forested Environment. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2013, 51, 3910-3921.	6.3	12
72	Impact of Demographic Growth on Seawater Intrusion: Case of the Tripoli Aquifer, Lebanon. <i>Water (Switzerland)</i> , 2016, 8, 104.	2.7	12

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73	The stochastic Beer-Lambert-Bouguer law for discontinuous vegetation canopies. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 214, 18-32.	2.3	12
74	Potentials and Limits of Vegetation Indices With BRDF Signatures for Soil-Noise Resistance and Estimation of Leaf Area Index. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 5092-5108.	6.3	12
75	Biomass Prediction in Tropical Forests: The Canopy Grain Approach. , 2012, , .		11
76	Crop Biophysical Properties Estimation Based on LiDAR Full-Waveform Inversion Using the DART RTM. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2017, 10, 4853-4868.	4.9	11
77	Mapping the Irradiance Field of a Single Tree: Quantifying Vegetation-Induced Adjacency Effects. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 4994-5011.	6.3	11
78	Comprehensive LiDAR simulation with efficient physically-based DART-Lux model (I): Theory, novelty, and consistency validation. Remote Sensing of Environment, 2022, 272, 112952.	11.0	11
79	Exploiting Earth Observation data products for mapping Local Climate Zones. , 2015, , .		10
80	DART: Improvement of thermal infrared radiative transfer modelling for simulating top of atmosphere radiance. Remote Sensing of Environment, 2020, 251, 112082.	11.0	10
81	Dynamic Retrieval of Olive Tree Properties Using Bayesian Model and Sentinel-2 Images. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 9267-9286.	4.9	10
82	Modeling of the radiation regime and photosynthesis of a finite canopy using the DART model. Influence of canopy architecture assumptions and border effects. Agronomy for Sustainable Development, 2000, 20, 259-270.	0.8	10
83	Attenuating the Absorption Contribution on C_n Estimates with a Large-Aperture Scintillometer. Boundary-Layer Meteorology, 2012, 143, 261-283.	2.3	9
84	DESIGNING A GIS FOR THE STUDY OF FOREST EVOLUTION IN CENTRAL JAVA. Tijdschrift Voor Economische En Sociale Geografie, 1988, 79, 93-103.	2.1	8
85	Modeling Mean Radiant Temperature Distribution in Urban Landscapes Using DART. Remote Sensing, 2021, 13, 1443.	4.0	8
86	Retrieval of olive tree biophysical properties from Sentinel-2 time series based on physical modelling and machine learning technique. International Journal of Remote Sensing, 2021, 42, 8542-8571.	2.9	7
87	Essai préliminaire de détection des champs d'ambroisie par télédétection spatiale. Revue Française D'allergologie Et D'immunologie Clinique, 2002, 42, 533-538.	0.1	6
88	A novel approach for anthropogenic heat flux estimation from space. , 2016, , .		6
89	Simulation-Based Evaluation of the Estimation Methods of Far-Red Solar-Induced Chlorophyll Fluorescence Escape Probability in Discontinuous Forest Canopies. Remote Sensing, 2020, 12, 3962.	4.0	6
90	ICARE-VEG: A 3D physics-based atmospheric correction method for tree shadows in urban areas. ISPRS Journal of Photogrammetry and Remote Sensing, 2018, 142, 311-327.	11.1	5

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91	Quantitative Analysis of DART Calibration Accuracy for Retrieving Spectral Signatures Over Urban Area. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 10057-10068.	4.9	5
92	Simulating the Canopy Reflectance of Different Eucalypt Genotypes With the DART 3-D Model. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2017, 10, 4844-4852.	4.9	5
93	Reflectance, leaf area index and structural studies of a rain forest canopy using the "Operation Canop@e" association's tree top raft "hot air airship" combination. Geocarto International, 1994, 9, 17-18.	3.5	4
94	Tropical dry ecosystems modelling and monitoring from space. Ecological Modelling, 1998, 108, 175-188.	2.5	4
95	Anthropogenic heat FLUX estimation from Space. , 2017, , .		4
96	Hybrid Scene Structuring for Accelerating 3D Radiative Transfer Simulations. Remote Sensing, 2019, 11, 2637.	4.0	4
97	How does leaf functional diversity affect the light environment in forest canopies? An in-silico biodiversity experiment. Ecological Modelling, 2021, 440, 109394.	2.5	4
98	Physically-based retrievals of Norway spruce canopy variables from very high spatial resolution hyperspectral data. , 2007, , .		3
99	Atmospheric correction of ground-based thermal infrared camera through dart model. , 2017, , .		3
100	Olive Biophysical Property Estimation Based on Sentinel-2 Image Inversion. , 2018, , .		3
101	Gaussian Decomposition of LiDAR Waveform Data Simulated by Dart. , 2018, , .		3
102	Impact of Tree Crown Transmittance on Surface Reflectance Retrieval in the Shade for High Spatial Resolution Imaging Spectroscopy: A Simulation Analysis Based on Tree Modeling Scenarios. Remote Sensing, 2021, 13, 931.	4.0	3
103	Impact of Modeling Abstractions When Estimating Leaf Mass per Area and Equivalent Water Thickness over Sparse Forests Using a Hybrid Method. Remote Sensing, 2021, 13, 3235.	4.0	3
104	Radiative Transfer Image Simulation Using L-System Modeled Strawberry Canopies. Remote Sensing, 2022, 14, 548.	4.0	3
105	Landsat Snow-Free Surface Albedo Estimation Over Sloping Terrain: Algorithm Development and Evaluation. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-14.	6.3	3
106	Material reflectance retrieval in urban tree shadows with physics-based empirical atmospheric correction. , 2013, , .		2
107	Mangrove Forest Dynamics Using Very High Spatial Resolution Optical Remote Sensing. , 2016, , 269-295.		2
108	3-D vector radiative transfer for vegetation cover polarized BRDF modeling. , 2016, , .		2

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109	Implications of 3D Forest Stand Reconstruction Methods for Radiative Transfer Modeling: A Case Study in the Temperate Deciduous Forest. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	2
110	Variational multiscale approach to LAI profile inversion based on LiDAR full waveform measurements. , 2016, , .		1
111	DAta simulation and fusion of imaging spectrometer and LiDAR multi-sensor system through dart model. , 2016, , .		1
112	Bayesian inversion technique of olive tree biophysical properties using Sentinel-2 images. , 2018, , .		1
113	Simulating Spectral Images with Less Model Through a Voxel-Based Parameterization of Airborne Lidar Data. , 2019, , .		1
114	Direction discretization for radiative transfer modeling: An introduction to the new direction model of dart. , 2012, , .		0
115	Anthropogenic heat flux estimation from space: results of the first phase of the URBANFLUXES project. Proceedings of SPIE, 2016, , .	0.8	0
116	Lidar full waveform inversion to estimate maize and wheat crops biophysical properties. , 2017, , .		0
117	Recent advances of modeling lidar data using dart and radiometric calibration coefficient from LVIS waveforms comparison. , 2017, , .		0
118	Assessment of Sky Diffuse Irradiance and Building Reflected Irradiance in Cast Shadows. , 2021, , .		0
119	Deep Learning Application to Surface Properties Retrieval Using TIR Measurements: A Fast Forward/Reverse Scheme to Deal with Big Data Analysis from New Satellite Generations. Remote Sensing, 2021, 13, 5003.	4.0	0