

Cyril Ruckebusch

List of Publications by Year in descending order

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125
papers

3,537
citations

172386

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129
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129
docs citations

129
times ranked

4446
citing authors

#	ARTICLE	IF	CITATIONS
1	A novel proposal to investigate the interplay between the spatial and spectral domains in near-infrared spectral imaging data by means of Image Decomposition, Encoding and Localization (IDEL). <i>Analytica Chimica Acta</i> , 2022, 1191, 339285.	2.6	1
2	Structural Information about the <i>trans</i> -to- <i>cis</i> Isomerization Mechanism of the Photoswitchable Fluorescent Protein rsEGFP2 Revealed by Multiscale Infrared Transient Absorption. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 1194-1202.	2.1	9
3	Selection of essential spectra to improve the multivariate curve resolution of minor compounds in complex pharmaceutical formulations. <i>Analytica Chimica Acta</i> , 2022, 1198, 339532.	2.6	9
4	Multilinear Slicing for curve resolution of fluorescence imaging with sequential illumination. <i>Talanta</i> , 2022, 241, 123231.	2.9	1
5	Hyperspectral Video Analysis by Motion and Intensity Preprocessing and Subspace Autoencoding. <i>Frontiers in Chemistry</i> , 2022, 10, 818974.	1.8	0
6	Hierarchical classification and matching of mid-infrared spectra of paint samples for forensic applications. <i>Talanta</i> , 2022, 243, 123360.	2.9	5
7	Unifying Perspective of the Ultrafast Photodynamics of Orange Carotenoid Proteins from <i>Synechocystis</i> : Peril of High-Power Excitation, Existence of Different S* States, and Influence of Tagging. <i>Jacs Au</i> , 2022, 2, 1084-1095.	3.6	8
8	Fast and simple super-resolution with single images. <i>Scientific Reports</i> , 2022, 12, .	1.6	5
9	Joint selection of essential pixels and essential variables across hyperspectral images. <i>Analytica Chimica Acta</i> , 2021, 1141, 36-46.	2.6	18
10	Design of experiments for the optimization of SOFI super-resolution microscopy imaging. <i>Biomedical Optics Express</i> , 2021, 12, 2617.	1.5	9
11	Smoothness correction for better SOFI imaging. <i>Scientific Reports</i> , 2021, 11, 7569.	1.6	3
12	Pixel-based Raman hyperspectral identification of complex pharmaceutical formulations. <i>Analytica Chimica Acta</i> , 2021, 1155, 338361.	2.6	15
13	QCL-based mid-infrared hyperspectral imaging of multilayer polymer oxygen barrier-films. <i>Polymer Testing</i> , 2021, 98, 107190.	2.3	3
14	Assessing the Resolution of Methyltransferase-Mediated DNA Optical Mapping. <i>ACS Omega</i> , 2021, 6, 21276-21283.	1.6	2
15	Multivariate Curve Resolution Slicing of Multiexponential Time-Resolved Spectroscopy Fluorescence Data. <i>Analytical Chemistry</i> , 2021, 93, 12504-12513.	3.2	9
16	Identifying microbial species by single-molecule DNA optical mapping and resampling statistics. <i>NAR Genomics and Bioinformatics</i> , 2020, 2, lqz007.	1.5	15
17	A spatial constraint to model and extract texture components in Multivariate Curve Resolution of near-infrared hyperspectral images. <i>Analytica Chimica Acta</i> , 2020, 1095, 30-37.	2.6	13
18	Image Processing in Chemometrics. , 2020, , 411-436.		3

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19	Chemometric Strategies for Spectroscopy-Based Food Authentication. Applied Sciences (Switzerland), 2020, 10, 6544.	1.3	59
20	Fast Analysis, Processing and Modeling of Hyperspectral Videos: Challenges and Possible Solutions. , 2020, , 395-409.		1
21	Perspective on essential information in multivariate curve resolution. TrAC - Trends in Analytical Chemistry, 2020, 132, 116044.	5.8	25
22	Exploring local spatial features in hyperspectral images. Journal of Chemometrics, 2020, 34, e3295.	0.7	7
23	Reaction rate ambiguities for perturbed spectroscopic data: Theory and implementation. Analytica Chimica Acta, 2020, 1137, 170-180.	2.6	1
24	ANOVA-Simultaneous Component analysis modelling of low-level-fused spectroscopic data: A food chemistry case-study. Analytica Chimica Acta, 2020, 1125, 308-314.	2.6	16
25	A criterion for automatic image deconvolution with L ₀ norm regularization. Journal of Chemometrics, 2020, 34, e3227.	0.7	2
26	Photoswitching mechanism of a fluorescent protein revealed by time-resolved crystallography and transient absorption spectroscopy. Nature Communications, 2020, 11, 741.	5.8	56
27	High-throughput time-resolved morphology screening in bacteria reveals phenotypic responses to antibiotics. Communications Biology, 2019, 2, 269.	2.0	35
28	Essential Spectral Pixels for Multivariate Curve Resolution of Chemical Images. Analytical Chemistry, 2019, 91, 10943-10948.	3.2	29
29	Study of conformational transitions of i-motif DNA using time-resolved fluorescence and multivariate analysis methods. Nucleic Acids Research, 2019, 47, 6590-6605.	6.5	18
30	Image Fusion. Data Handling in Science and Technology, 2019, , 311-344.	3.1	8
31	Analysis of the ambiguity in the determination of quantum yields from spectral data on a photoinduced isomerization. Chemometrics and Intelligent Laboratory Systems, 2019, 189, 88-95.	1.8	3
32	Photochemical multivariate curve resolution models for the investigation of photochromic systems under continuous irradiation. Analytica Chimica Acta, 2019, 1053, 32-42.	2.6	4
33	Understanding the impact of the changes in weather conditions on surface water quality. Science of the Total Environment, 2019, 652, 289-299.	3.9	19
34	Effect of image processing constraints on the extent of rotational ambiguity in MCR-ALS of hyperspectral images. Analytica Chimica Acta, 2019, 1052, 27-36.	2.6	12
35	Comparing Kriging, Spline, and MLR in Product Properties Modelization: Application to Cloud Point Prediction. Energy & Fuels, 2018, 32, 5623-5634.	2.5	2
36	Kriging Modeling to Predict Viscosity Index of Base Oils. Energy & Fuels, 2018, 32, 2588-2597.	2.5	4

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37	Application of a sparseness constraint in multivariate curve resolution "Alternating least squares. <i>Analytica Chimica Acta</i> , 2018, 1000, 100-108.	2.6	32
38	Edge-Preserving Image Smoothing Constraint in Multivariate Curve Resolution "Alternating Least Squares (MCR-ALS) of Hyperspectral Data. <i>Applied Spectroscopy</i> , 2018, 72, 420-431.	1.2	8
39	Introducing special issue on chemical image analysis. <i>Journal of Chemometrics</i> , 2018, 32, e2941.	0.7	0
40	Chromophore twisting in the excited state of a photoswitchable fluorescent protein captured by time-resolved serial femtosecond crystallography. <i>Nature Chemistry</i> , 2018, 10, 31-37.	6.6	152
41	A Perspective on Data Processing in Super-resolution Fluorescence Microscopy Imaging. <i>Journal of Analysis and Testing</i> , 2018, 2, 193-209.	2.5	5
42	MCR-ALS of hyperspectral images with spatio-spectral fuzzy clustering constraint. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2018, 179, 85-91.	1.8	12
43	Frame-Insensitive Expression Cloning of Fluorescent Protein from <i>Scolionema suvaense</i> . <i>International Journal of Molecular Sciences</i> , 2018, 19, 371.	1.8	2
44	Study of light-induced formation of photodimers in the i-motif nucleic acid structure by rapid-scan FTIR difference spectroscopy and hybrid hard- and soft-modelling. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 19635-19646.	1.3	3
45	Superhydrophobic polypyrrole films to prevent <i>Staphylococcus aureus</i> and <i>Pseudomonas aeruginosa</i> biofilm adhesion on surfaces: high efficiency deciphered by fluorescence microscopy. <i>Photochemical and Photobiological Sciences</i> , 2018, 17, 1023-1035.	1.6	10
46	SIMCA Modeling for Overlapping Classes: Fixed or Optimized Decision Threshold?. <i>Analytical Chemistry</i> , 2018, 90, 10738-10747.	3.2	33
47	AIE phenomena of a cyanostilbene derivative as a probe of molecular assembly processes. <i>Faraday Discussions</i> , 2017, 196, 231-243.	1.6	14
48	A multivariate curve resolution approach to separate UV-vis scattering and absorption contributions for organic nanoparticles. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2017, 160, 72-76.	1.8	9
49	Correcting for photodestruction in super-resolution optical fluctuation imaging. <i>Scientific Reports</i> , 2017, 7, 10470.	1.6	26
50	Fusion of Ultraviolet-Visible and Infrared Transient Absorption Spectroscopy Data to Model Ultrafast Photoisomerization. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 3530-3535.	2.1	7
51	Excited-State Symmetry Breaking in a Quadrupolar Molecule Visualized in Time and Space. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 6029-6034.	2.1	82
52	Raman transduction for polymeric ion-selective sensor membranes: Proof of concept study. <i>Sensors and Actuators B: Chemical</i> , 2017, 253, 697-702.	4.0	2
53	Improved superresolution microscopy imaging by sparse deconvolution with an interframe penalty. <i>Journal of Chemometrics</i> , 2017, 31, e2847.	0.7	15
54	Sparse deconvolution of high-density super-resolution images. <i>Scientific Reports</i> , 2016, 6, 21413.	1.6	48

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55	A Smoothness Constraint in Multivariate Curve Resolution-Alternating Least Squares of Spectroscopy Data. <i>Data Handling in Science and Technology</i> , 2016, 30, 453-476.	3.1	1
56	Multivariate Curve Resolution of (Ultra)Fast Photoinduced Process Spectroscopy Data. <i>Data Handling in Science and Technology</i> , 2016, , 353-379.	3.1	1
57	Serial Femtosecond Crystallography and Ultrafast Absorption Spectroscopy of the Photoswitchable Fluorescent Protein IrisFP. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 882-887.	2.1	43
58	Constraining shape smoothness in multivariate curve resolutionâ€“alternating least squares. <i>Journal of Chemometrics</i> , 2015, 29, 448-456.	0.7	21
59	Elucidation of the primary ultrafast steps in photo-switchable systems using chemometric analysis. , 2015, , .		0
60	Restoring important process information from complex optical spectra with MCR-ALS: Case study of actinide reduction in spent nuclear fuel reprocessing. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2015, 146, 241-249.	1.8	12
61	Mapping Pixel Dissimilarity in Wide-Field Super-Resolution Fluorescence Microscopy. <i>Analytical Chemistry</i> , 2015, 87, 4675-4682.	3.2	7
62	On the implementation of spatial constraints in multivariate curve resolution alternating least squares for hyperspectral image analysis. <i>Journal of Chemometrics</i> , 2015, 29, 557-561.	0.7	38
63	Emission Properties of Oxyluciferin and Its Derivatives in Water: Revealing the Nature of the Emissive Species in Firefly Bioluminescence. <i>Journal of Physical Chemistry B</i> , 2015, 119, 2638-2649.	1.2	63
64	Vibrational Spectra of Chemical and Isotopic Variants of Oxyluciferin, the Light Emitter of Firefly Bioluminescence. <i>Chemistry - A European Journal</i> , 2014, 20, 10782-10790.	1.7	5
65	Design of Efficient Photoinduced Charge Separation in Donorâ€“Copper(I)â€“Acceptor Triad. <i>Journal of Physical Chemistry C</i> , 2014, 118, 28388-28400.	1.5	26
66	Sparse Deconvolution in One and Two Dimensions: Applications in Endocrinology and Single-Molecule Fluorescence Imaging. <i>Analytical Chemistry</i> , 2014, 86, 6291-6298.	3.2	19
67	A Multifunctional Photoswitch: 6ÿ Electrocyclization versus ESIPT and Metalation. <i>Chemistry - A European Journal</i> , 2014, 20, 12279-12288.	1.7	9
68	Perspectives from the Pioneers of Chemometrics series. <i>Journal of Chemometrics</i> , 2014, 28, 761-761.	0.7	0
69	Combining near and mid infrared spectroscopy for heavy oil characterisation. <i>Fuel</i> , 2014, 133, 310-316.	3.4	10
70	Multivariate curve resolution â€” alternating least squares to cope with deviations from data bilinearity in ultrafast time-resolved spectroscopy. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2013, 128, 101-110.	1.8	20
71	Deciphering the protonation and tautomeric equilibria of firefly oxyluciferin by molecular engineering and multivariate curve resolution. <i>Chemical Science</i> , 2013, 4, 3803.	3.7	60
72	Mixture models for two-dimensional baseline correction, applied to artifact elimination in time-resolved spectroscopy. <i>Analytica Chimica Acta</i> , 2013, 771, 7-13.	2.6	18

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73	Multivariate curve resolution: A review of advanced and tailored applications and challenges. <i>Analytica Chimica Acta</i> , 2013, 765, 28-36.	2.6	321
74	Multivariate curve resolution " Alternating least squares applied to the investigation of ultrafast competitive photoreactions. <i>Analytica Chimica Acta</i> , 2013, 788, 8-16.	2.6	17
75	A two-step ICT process for solvatochromic betaine pyridinium revealed by ultrafast spectroscopy, multivariate curve resolution, and TDDFT calculations. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 1945.	1.3	26
76	Trappist beer identification by vibrational spectroscopy: A chemometric challenge posed at the "Chimiom"trie 2010"™ congress. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2012, 113, 2-9.	1.8	22
77	Comprehensive data analysis of femtosecond transient absorption spectra: A review. <i>Journal of Photochemistry and Photobiology C: Photochemistry Reviews</i> , 2012, 13, 1-27.	5.6	268
78	Characterisation of heavy oils using near-infrared spectroscopy: Optimisation of pre-processing methods and variable selection. <i>Analytica Chimica Acta</i> , 2011, 705, 227-234.	2.6	54
79	Baseline correction methods to deal with artifacts in femtosecond transient absorption spectroscopy. <i>Analytica Chimica Acta</i> , 2011, 705, 64-71.	2.6	17
80	Probing local structure of sub and supercritical CO ₂ by using two-dimensional Raman correlation spectroscopy. <i>Journal of Molecular Liquids</i> , 2011, 164, 11-16.	2.3	5
81	Ubiquinol formation in isolated photosynthetic reaction centres monitored by time-resolved differential FTIR in combination with 2D correlation spectroscopy and multivariate curve resolution. <i>Analytical and Bioanalytical Chemistry</i> , 2011, 399, 1999-2014.	1.9	22
82	Effects of a Self-Assembled Molecular Capsule on the Ultrafast Photodynamics of a Photochromic Salicylideneaniline Guest. <i>ChemPhysChem</i> , 2011, 12, 1669-1672.	1.0	36
83	Hybrid hard- and soft-modeling approach for the resolution of convoluted femtosecond spectrokinetic data. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2011, 105, 74-82.	1.8	23
84	Chemometric analysis of femtosecond transient absorption spectroscopy data: Study of the photochromism of anils. <i>Science China: Physics, Mechanics and Astronomy</i> , 2010, 53, 1024-1035.	2.0	6
85	Deconvolution of femtosecond time-resolved spectroscopy data in multivariate curve resolution. Application to the characterization of ultrafast photo-induced intramolecular proton transfer. <i>Journal of Chemometrics</i> , 2010, 24, 424-433.	0.7	17
86	Gaussian mixture models for the classification of high-dimensional vibrational spectroscopy data. <i>Journal of Chemometrics</i> , 2010, 24, 719-727.	0.7	21
87	Investigation of ultrafast photoinduced processes for salicylidene aniline in solution and gas phase: toward a general photo-dynamical scheme. <i>Photochemical and Photobiological Sciences</i> , 2010, 9, 661-669.	1.6	110
88	Hybrid hard- and soft-modelling applied to analyze ultrafast processes by femtosecond transient absorption spectroscopy: Study of the photochromism of salicylidene anilines. <i>Analytica Chimica Acta</i> , 2009, 642, 228-234.	2.6	31
89	Support vector machines (SVM) in near infrared (NIR) spectroscopy: Focus on parameters optimization and model interpretation. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2009, 96, 27-33.	1.8	211
90	Chemometrics description of measurement error structure: Study of an ultrafast absorption spectroscopy experiment. <i>Analytica Chimica Acta</i> , 2009, 642, 19-26.	2.6	26

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91	Monitoring and Interpretation of Photoinduced Biochemical Processes by Rapid-Scan FTIR Difference Spectroscopy and Hybrid Hard and Soft Modeling. <i>Journal of Physical Chemistry B</i> , 2009, 113, 6031-6040.	1.2	27
92	Comparative Investigation of Ultrafast Photoinduced Processes in Salicylidene-Aminopyridine in Solution and Solid State. <i>Journal of Physical Chemistry C</i> , 2009, 113, 11959-11968.	1.5	73
93	Focus on the potential of hybrid hard and soft MCR-ALS in time resolved spectroscopy. <i>Journal of Chemometrics</i> , 2008, 22, 666-673.	0.7	20
94	Super-resolution and Raman chemical imaging: From multiple low resolution images to a high resolution image. <i>Analytica Chimica Acta</i> , 2008, 607, 168-175.	2.6	30
95	Reliable multivariate curve resolution of femtosecond transient absorption spectra. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2008, 91, 17-27.	1.8	30
96	The Benzophenone $S_1(n, \dot{\pi}^*) \rightarrow T_1(n, \dot{\pi}^*)$ States Intersystem Crossing Reinvestigated by Ultrafast Absorption Spectroscopy and Multivariate Curve Resolution. <i>Journal of Physical Chemistry A</i> , 2008, 112, 224-231.	1.1	127
97	Contribution Made by Multivariate Curve Resolution Applied to Gel Permeation Chromatography and Fourier Transform Infrared Data for an In-Depth Characterization of Styrene-Butadiene Rubber Blends. <i>Applied Spectroscopy</i> , 2008, 62, 791-797.	1.2	3
98	Quantitative Analysis of Cotton-Viscose Textile Products from 12-Points near Infrared Spectra. <i>NIR News</i> , 2008, 19, 10-12.	1.6	3
99	Hybrid hard- and soft-modeling applied to difference spectra. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2007, 89, 26-35.	1.8	51
100	Genetic algorithm optimisation combined with partial least squares regression and mutual information variable selection procedures in near-infrared quantitative analysis of cotton-viscose textiles. <i>Analytica Chimica Acta</i> , 2007, 595, 72-79.	2.6	100
101	Multivariate curve resolution of rapid-scan FTIR difference spectra of quinone photoreduction in bacterial photosynthetic membranes. <i>Analytical and Bioanalytical Chemistry</i> , 2007, 387, 1863-1873.	1.9	31
102	Quantitative Analysis of Cotton-Polyester Textile Blends from Near-Infrared Spectra. <i>Applied Spectroscopy</i> , 2006, 60, 539-544.	1.2	41
103	Matrix augmentation for breaking rank-deficiency: A case study. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2006, 80, 209-214.	1.8	37
104	Chemometric strategies for the study of the complexation of Al(III) ions with model molecule of humic substances from UV-vis data sets. <i>Analytica Chimica Acta</i> , 2005, 544, 337-344.	2.6	22
105	Multivariate curve resolution of step-scan FTIR spectral data. <i>Vibrational Spectroscopy</i> , 2004, 35, 21-26.	1.2	16
106	Matrix merging arrangements for the study protein dynamics by time-resolved step-scan Fourier transform infrared spectroscopy and multivariate curve resolution. <i>Analytica Chimica Acta</i> , 2004, 515, 183-190.	2.6	11
107	Multivariate curve resolution applied to Fourier transform infrared spectra of macromolecules: structural characterisation of the acid form and the salt form of humic acids in interaction with lead. <i>Analytica Chimica Acta</i> , 2003, 477, 201-209.	2.6	18
108	Statistical tests for comparison of quantitative and qualitative models developed with near infrared spectral data. <i>Journal of Molecular Structure</i> , 2003, 654, 253-262.	1.8	36

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109	Time-Resolved Step-Scan FT-IR Spectroscopy: Focus on Multivariate Curve Resolution. Journal of Chemical Information and Computer Sciences, 2003, 43, 1966-1973.	2.8	27
110	Multivariate Curve Resolution Methods in Imaging Spectroscopy: Influence of Extraction Methods and Instrumental Perturbations. Journal of Chemical Information and Computer Sciences, 2003, 43, 2057-2067.	2.8	63
111	Interpretation and improvement of an artificial neural network MIR calibration. Chemometrics and Intelligent Laboratory Systems, 2002, 62, 189-198.	1.8	10
112	On-Line Mid-Infrared Spectroscopic Data and Chemometrics for the Monitoring of an Enzymatic Hydrolysis. Applied Spectroscopy, 2001, 55, 1610-1617.	1.2	15
113	Antibacterial activity of a pepsin-derived bovine hemoglobin fragment. FEBS Letters, 2001, 491, 159-163.	1.3	95
114	Degree of hydrolysis from mid-infrared spectra. Analytica Chimica Acta, 2001, 446, 255-266.	2.6	5
115	Neural network modelling for very small spectral data sets: reduction of the spectra and hierarchical approach. Chemometrics and Intelligent Laboratory Systems, 2000, 54, 93-106.	1.8	18
116	Hydrolysis of haemoglobin surveyed by infrared spectroscopy: I. solvent effect on the secondary structure of haemoglobin. Journal of Molecular Structure, 1999, 478, 185-191.	1.8	20
117	Standardisation of near-IR spectrometers using artificial neural networks. Journal of Molecular Structure, 1999, 480-481, 551-556.	1.8	15
118	Hydrolysis of hemoglobin surveyed by infrared spectroscopy. Analytica Chimica Acta, 1999, 396, 241-251.	2.6	13
119	Hierarchical Neural Network Modeling for Infrared Spectra Interpretation of Modified Starches. Journal of Chemical Information and Computer Sciences, 1999, 39, 1027-1036.	2.8	11
120	Standardisation of near Infrared Spectrometers Using Artificial Neural Networks. Journal of Near Infrared Spectroscopy, 1999, 7, 155-166.	0.8	17
121	Identification of Modified Starches Using Infrared Spectroscopy and Artificial Neural Network Processing. Applied Spectroscopy, 1998, 52, 329-338.	1.2	39
122	Quantitative analysis of paper coatings using artificial neural networks. Chemometrics and Intelligent Laboratory Systems, 1997, 36, 125-140.	1.8	18
123	Quantitative determination of polymer and mineral content in paper coatings by infrared spectroscopy. Improvements by non-linear treatments. Analytica Chimica Acta, 1996, 335, 79-85.	2.6	13
124	Weighted fuzzy clustering for (fuzzy) constraints in multivariate image analysis – alternating least square of hyperspectral images. Journal of Spectral Imaging, 0, , .	0.0	4
125	Model-based co-clustering for hyperspectral images. Journal of Spectral Imaging, 0, , .	0.0	0