

Matthias Alfeld

List of Publications by Year in descending order

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53
papers

2,059
citations

236925

25
h-index

233421

45
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54
all docs

54
docs citations

54
times ranked

1837
citing authors

#	ARTICLE	IF	CITATIONS
1	A mobile instrument for in situ scanning macro-XRF investigation of historical paintings. <i>Journal of Analytical Atomic Spectrometry</i> , 2013, 28, 760.	3.0	196
2	Maia X-ray fluorescence imaging: Capturing detail in complex natural samples. <i>Journal of Physics: Conference Series</i> , 2014, 499, 012002.	0.4	162
3	Optimization of mobile scanning macro-XRF systems for the in situ investigation of historical paintings. <i>Journal of Analytical Atomic Spectrometry</i> , 2011, 26, 899.	3.0	154
4	Strategies for processing mega-pixel X-ray fluorescence hyperspectral data: a case study on a version of Caravaggio's painting <i>Supper at Emmaus</i> . <i>Journal of Analytical Atomic Spectrometry</i> , 2015, 30, 777-789.	3.0	138
5	Recent developments in spectroscopic imaging techniques for historical paintings - A review. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2017, 136, 81-105.	2.9	118
6	Mobile depth profiling and sub-surface imaging techniques for historical paintings – A review. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2013, 88, 211-230.	2.9	99
7	Analysis of sublethal arsenic toxicity to <i>Ceratophyllum demersum</i> : subcellular distribution of arsenic and inhibition of chlorophyll biosynthesis. <i>Journal of Experimental Botany</i> , 2016, 67, 4639-4646.	4.8	88
8	Examination of historical paintings by state-of-the-art hyperspectral imaging methods: from scanning infra-red spectroscopy to computed X-ray laminography. <i>Heritage Science</i> , 2014, 2, .	2.3	86
9	Role of element partitioning on the β phase transformation kinetics of a bi-modal Ti-6Al-2Sn alloy during continuous heating. <i>Journal of Alloys and Compounds</i> , 2015, 626, 330-339.	5.5	67
10	The Use of Synchrotron Radiation for the Characterization of Artists' Pigments and Paintings. <i>Annual Review of Analytical Chemistry</i> , 2013, 6, 399-425.	5.4	63
11	Revealing hidden paint layers in oil paintings by means of scanning macro-XRF: a mock-up study based on Rembrandt's "An old man in military costume". <i>Journal of Analytical Atomic Spectrometry</i> , 2013, 28, 40-51.	3.0	51
12	Scanning XRF investigation of a Flower Still Life and its underlying composition from the collection of the Kröller-Müller Museum. <i>Applied Physics A: Materials Science and Processing</i> , 2013, 111, 165-175.	2.3	50
13	Fast X-ray microfluorescence imaging with submicrometer-resolution integrating a Maia detector at beamline P06 at PETRA-III. <i>Journal of Synchrotron Radiation</i> , 2016, 23, 1550-1560.	2.4	49
14	Nutrient accumulation in leaves of Fe-deficient cucumber plants treated with natural Fe complexes. <i>Biology and Fertility of Soils</i> , 2014, 50, 973-982.	4.3	47
15	Macroscopic Fourier transform infrared scanning in reflection mode (MA-rFTIR), a new tool for chemical imaging of cultural heritage artefacts in the mid-infrared range. <i>Analyst</i> , 2014, 139, 2489-2498.	3.5	45
16	Chemical imaging of stained-glass windows by means of macro X-ray fluorescence (MA-XRF) scanning. <i>Microchemical Journal</i> , 2016, 124, 615-622.	4.5	44
17	Visualizing the 17th century underpainting in <i>Portrait of an Old Man</i> by Rembrandt van Rijn using synchrotron-based scanning macro-XRF. <i>Applied Physics A: Materials Science and Processing</i> , 2013, 111, 157-164.	2.3	41
18	Non-Invasive and Non-Destructive Examination of Artistic Pigments, Paints, and Paintings by Means of X-Ray Methods. <i>Topics in Current Chemistry</i> , 2016, 374, 81.	5.8	41

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19	Full spectral XANES imaging using the Maia detector array as a new tool for the study of the alteration process of chrome yellow pigments in paintings by Vincent van Gogh. <i>Journal of Analytical Atomic Spectrometry</i> , 2015, 30, 613-626.	3.0	40
20	Rembrandt's "Saul and David" (c. 1652): Use of multiple types of smalt evidenced by means of non-destructive imaging. <i>Microchemical Journal</i> , 2016, 126, 515-523.	4.5	38
21	XRF and reflectance hyperspectral imaging on a 15th century illuminated manuscript: combining imaging and quantitative analysis to understand the artist's technique. <i>Heritage Science</i> , 2018, 6, .	2.3	38
22	Joint data treatment for Vis-NIR reflectance imaging spectroscopy and XRF imaging acquired in the Theban Necropolis in Egypt by data fusion and t-SNE. <i>Comptes Rendus Physique</i> , 2018, 19, 625-635.	0.9	32
23	Spatially resolved (semi)quantitative determination of iron (Fe) in plants by means of synchrotron micro X-ray fluorescence. <i>Analytical and Bioanalytical Chemistry</i> , 2013, 405, 3341-3350.	3.7	31
24	The Eye of the Medusa: XRF Imaging Reveals Unknown Traces of Antique Polychromy. <i>Analytical Chemistry</i> , 2017, 89, 1493-1500.	6.5	29
25	James Ensor's pigment use: artistic and material evolution studied by means of portable X-ray fluorescence spectrometry. <i>X-Ray Spectrometry</i> , 2010, 39, 103-111.	1.4	27
26	Restoration of X-ray fluorescence images of hidden paintings. <i>Signal Processing</i> , 2013, 93, 592-604.	3.7	26
27	Palaeolithic paint palettes used at La Garma Cave (Cantabria, Spain) investigated by means of combined in situ and synchrotron X-ray analytical methods. <i>Journal of Analytical Atomic Spectrometry</i> , 2015, 30, 767-776.	3.0	26
28	Non-negative factor analysis supporting the interpretation of elemental distribution images acquired by XRF. <i>Journal of Physics: Conference Series</i> , 2014, 499, 012013.	0.4	25
29	Iron allocation in leaves of Fe-deficient cucumber plants fed with natural Fe complexes. <i>Physiologia Plantarum</i> , 2015, 154, 82-94.	5.2	25
30	MA-XRF and hyperspectral reflectance imaging for visualizing traces of antique polychromy on the Frieze of the Siphnian Treasury. <i>Microchemical Journal</i> , 2018, 141, 395-403.	4.5	21
31	Non-negative matrix factorization for the near real-time interpretation of absorption effects in elemental distribution images acquired by X-ray fluorescence imaging. <i>Journal of Synchrotron Radiation</i> , 2016, 23, 579-589.	2.4	18
32	Investigation of the pigment use in the Tomb of the Reliefs and other tombs in the Etruscan Banditaccia Necropolis. <i>X-Ray Spectrometry</i> , 2019, 48, 262-273.	1.4	16
33	The role of smalt in complex pigment mixtures in Rembrandt's Homer 1663: combining MA-XRF imaging, microanalysis, paint reconstructions and OCT. <i>Heritage Science</i> , 2020, 8, .	2.3	16
34	Simplex Volume Maximization (SiVM): A matrix factorization algorithm with non-negative constraints and low computing demands for the interpretation of full spectral X-ray fluorescence imaging data. <i>Microchemical Journal</i> , 2017, 132, 179-184.	4.5	15
35	MA-XRF for Historical Paintings: State of the Art and Perspective. <i>Microscopy and Microanalysis</i> , 2020, 26, 72-75.	0.4	14
36	Determination of phosphorus and other elements in atmospheric aerosols using synchrotron total-reflection X-ray fluorescence. <i>X-Ray Spectrometry</i> , 2013, 42, 368-373.	1.4	13

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37	Separating two painting campaigns in Saul and David, attributed to Rembrandt, using macroscale reflectance and XRF imaging spectroscopies and microscale paint analysis. <i>Heritage Science</i> , 2018, 6, .	2.3	13
38	Neutron activation autoradiography and scanning macro-XRF of Rembrandt van Rijn's Susanna and the Elders (Gemäldegalerie Berlin): a comparison of two methods for imaging of historical paintings with elemental contrast. <i>Applied Physics A: Materials Science and Processing</i> , 2015, 119, 795-805.	2.3	12
39	SEM-EDX hyperspectral data analysis for the study of soil aggregates. <i>Geoderma</i> , 2022, 406, 115540.	5.1	11
40	The Use Of Full-Field XRF For Simultaneous Elemental Mapping. <i>AIP Conference Proceedings</i> , 2010, , .	0.4	8
41	Data intrinsic correction for working distance variations in MA-XRF of historical paintings based on the Ar signal. <i>X-Ray Spectrometry</i> , 2021, 50, 351-357.	1.4	5
42	Sunset and moonshine: Variable blue and yellow pigments used by Caspar David Friedrich in different creative periods revealed by in situ XRF imaging. <i>X-Ray Spectrometry</i> , 2021, 50, 341-350.	1.4	5
43	A Data Fusion Method For The Delaying Of X-Ray Fluorescence Images Of Painted Works Of Art. , 2021, , .		5
44	Unveiling the paint stratigraphy and technique of Roman African polychrome statues. <i>Archaeological and Anthropological Sciences</i> , 2022, 14, .	1.8	4
45	Dutch or Iranian? Technical study of a seventeenth-century painting on paper from Gesina Ter Bosch's scrapbook. <i>Heritage Science</i> , 2021, 9, .	2.3	2
46	La lumière pour une imagerie chimique des peintures. , 2016, , 106-111.	0.1	2
47	Subsurface Analysis of Oil Paintings by Means of Scanning Macro-XRF. <i>Microscopy and Microanalysis</i> , 2010, 16, 902-903.	0.4	1
48	Trendbericht Analytische Chemie. <i>Nachrichten Aus Der Chemie</i> , 2020, 68, 52-60.	0.0	1
49	Design and Analysis of Cable-Driven Parallel Robot CaRISA: A Cable Robot for Inspecting and Scanning Artwork. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2021, , 136-144.	0.6	1
50	The Skin of Van Gogh's Paintings. <i>Microscopy and Microanalysis</i> , 2011, 17, 1788-1789.	0.4	0
51	Die Entdeckung verlorener Kunst. <i>Kunstgeschichtliche Forschung mit Synchrotronstrahlung. Physik in Unserer Zeit</i> , 2011, 42, 130-136.	0.0	0
52	Strain Mapping of Indented Zr-Based Bulk Metallic Glass Using Nano-Diffraction. <i>Key Engineering Materials</i> , 0, 662, 51-54.	0.4	0
53	Tracing the colours of Hermogenes' temple of Artemis: architectural surface analysis in the Antikensammlung Berlin. <i>Techné</i> , 2019, , 14-26.	0.1	0