

Valter Sergo

List of Publications by Year in descending order

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111
papers

5,294
citations

76326

40
h-index

85541

71
g-index

111
all docs

111
docs citations

111
times ranked

6278
citing authors

#	ARTICLE	IF	CITATIONS
1	Modification of the Redox Behaviour of CeO ₂ Induced by Structural Doping with ZrO ₂ . <i>Journal of Catalysis</i> , 1996, 164, 173-183.	6.2	679
2	Low temperature degradation -aging- of zirconia: A critical review of the relevant aspects in dentistry. <i>Dental Materials</i> , 2010, 26, 807-820.	3.5	518
3	Biomedical applications of Raman and infrared spectroscopy to diagnose tissues. <i>Spectroscopy</i> , 2006, 20, 195-218.	0.8	185
4	Mechanical and chemical consequences of the residual stresses in plasma sprayed hydroxyapatite coatings. <i>Biomaterials</i> , 1997, 18, 477-482.	11.4	163
5	Label-free surface-enhanced Raman spectroscopy of biofluids: fundamental aspects and diagnostic applications. <i>Analytical and Bioanalytical Chemistry</i> , 2015, 407, 8265-8277.	3.7	156
6	Effect of ZrO ₂ content on textural and structural properties of CeO ₂ -ZrO ₂ solid solutions made by citrate complexation route. <i>Inorganica Chimica Acta</i> , 2003, 349, 217-226.	2.4	152
7	Surface-enhanced Raman spectroscopy of blood plasma and serum using Ag and Au nanoparticles: a systematic study. <i>Analytical and Bioanalytical Chemistry</i> , 2014, 406, 2355-2365.	3.7	152
8	Redox Behavior of High-Surface-Area Rh-, Pt-, and Pd-Loaded Ce _{0.5} Zr _{0.5} O ₂ Mixed Oxide. <i>Journal of Catalysis</i> , 1999, 182, 56-69.	6.2	141
9	Chemical imaging of articular cartilage sections with Raman mapping, employing uni- and multi-variate methods for data analysis. <i>Analyst</i> , 2010, 135, 3193.	3.5	124
10	Raman and FTIR microscopic imaging of colon tissue: a comparative study. <i>Journal of Biophotonics</i> , 2008, 1, 154-169.	2.3	102
11	Observation of Subcritical Spall Propagation of a Thermal Barrier Coating. <i>Journal of the American Ceramic Society</i> , 1998, 81, 3237-3242.	3.8	95
12	Potential of Surface Enhanced Raman Spectroscopy (SERS) in Therapeutic Drug Monitoring (TDM). A Critical Review. <i>Biosensors</i> , 2016, 6, 47.	4.7	89
13	Forty years after the promise of "ceramic steel": Zirconia-based composites with a metal-like mechanical behavior. <i>Journal of the American Ceramic Society</i> , 2020, 103, 1482-1513.	3.8	88
14	Surface-enhanced Raman spectroscopy of urine for prostate cancer detection: a preliminary study. <i>Analytical and Bioanalytical Chemistry</i> , 2015, 407, 3271-3275.	3.7	87
15	Towards long lasting zirconia-based composites for dental implants: Transformation induced plasticity and its consequence on ceramic reliability. <i>Acta Biomaterialia</i> , 2017, 48, 423-432.	8.3	83
16	Epitaxial Aluminum-Doped Zinc Oxide Thin Films on Sapphire: I, Effect of Substrate Orientation. <i>Journal of the American Ceramic Society</i> , 1995, 78, 1931-1934.	3.8	82
17	Poly-L-lysine-Coated Silver Nanoparticles as Positively Charged Substrates for Surface-Enhanced Raman Scattering. <i>Langmuir</i> , 2012, 28, 13166-13171.	3.5	79
18	Edge Stresses in Alumina/Zirconia Laminates. <i>Journal of the American Ceramic Society</i> , 1997, 80, 1633-1638.	3.8	77

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19	Effects of sample orientation in Raman microspectroscopy of collagen fibers and their impact on the interpretation of the amide III band. <i>Vibrational Spectroscopy</i> , 2010, 53, 314-317.	2.2	76
20	Laser-Excited Luminescence of Trivalent Lanthanide Impurities and Local Structure in CeO ₂ -ZrO ₂ Mixed Oxides. <i>Chemistry of Materials</i> , 2004, 16, 1938-1944.	6.7	75
21	Degree of conversion of Filtek Silorane Adhesive System and Clearfil SE Bond within the hybrid and adhesive layer: An in situ Raman analysis. <i>Dental Materials</i> , 2009, 25, 1178-1185.	3.5	72
22	SERS analysis of serum for detection of early and locally advanced breast cancer. <i>Analytical and Bioanalytical Chemistry</i> , 2015, 407, 7503-7509.	3.7	70
23	Deformation Bands in Ceria-Stabilized Tetragonal Zirconia/Alumina: I, Measurement of Internal Stresses. <i>Journal of the American Ceramic Society</i> , 1995, 78, 633-640.	3.8	61
24	Piezo-spectroscopic analysis of the residual stresses in zirconia-toughened alumina ceramics: the influence of the tetragonal-to-monoclinic transformation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1999, 271, 401-406.	5.6	59
25	SERS-Active Ag Nanoparticles on Porous Silicon and PDMS Substrates: A Comparative Study of Uniformity and Raman Efficiency. <i>Journal of Physical Chemistry C</i> , 2016, 120, 16946-16953.	3.1	57
26	Structural and Morphological Investigation of Ceria-Promoted Al ₂ O ₃ under Severe Reducing/Oxidizing Conditions. <i>Journal of Physical Chemistry B</i> , 2005, 109, 11110-11118.	2.6	56
27	Raman mapping and FTIR imaging of lung tissue: congenital cystic adenomatoid malformation. <i>Analyst</i> , 2008, 133, 361.	3.5	56
28	Grain size influence on residual stresses in alumina/zirconia composites. <i>Acta Materialia</i> , 1998, 46, 1701-1710.	7.9	54
29	Design of a novel MEMS platform for the biaxial stimulation of living cells. <i>Biomedical Microdevices</i> , 2006, 8, 239-246.	2.8	54
30	Polyol Synthesis of Silver Nanoparticles: Mechanism of Reduction by Alditol Bearing Polysaccharides. <i>Biomacromolecules</i> , 2009, 10, 210-213.	5.4	54
31	Epitaxial Aluminum-Doped Zinc Oxide Thin Films on Sapphire: II, Defect Equilibria and Electrical Properties. <i>Journal of the American Ceramic Society</i> , 1995, 78, 1935-1939.	3.8	50
32	Surface Enhanced Raman Spectroscopy for Quantitative Analysis: Results of a Large-Scale European Multi-Instrument Interlaboratory Study. <i>Analytical Chemistry</i> , 2020, 92, 4053-4064.	6.5	50
33	Degree of conversion and interfacial nanoleakage expression of three one-step self-etch adhesives. <i>European Journal of Oral Sciences</i> , 2009, 117, 463-469.	1.5	49
34	Label-Free Quantification of Anticancer Drug Imatinib in Human Plasma with Surface Enhanced Raman Spectroscopy. <i>Analytical Chemistry</i> , 2018, 90, 12670-12677.	6.5	46
35	Comparability of Raman Spectroscopic Configurations: A Large Scale Cross-Laboratory Study. <i>Analytical Chemistry</i> , 2020, 92, 15745-15756.	6.5	46
36	<i>In Situ</i> Measurements of Frictional Bridging Stresses in Alumina Using Fluorescence Spectroscopy. <i>Journal of the American Ceramic Society</i> , 1998, 81, 187-192.	3.8	45

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37	Validation of soft classification models using partial class memberships: An extended concept of sensitivity & co. applied to grading of astrocytoma tissues. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2013, 122, 12-22.	3.5	43
38	Residual Stresses in Alumina/Ceria-Stabilized Zirconia Composites. <i>Journal of the American Ceramic Society</i> , 1995, 78, 2213-2214.	3.8	42
39	Long-term stability of surfactant-free gold nanostars. <i>Journal of Nanoparticle Research</i> , 2014, 16, 1.	1.9	41
40	Surface-enhanced Raman spectroscopy of the anti-cancer drug irinotecan in presence of human serum albumin. <i>Colloids and Surfaces B: Biointerfaces</i> , 2015, 127, 41-46.	5.0	41
41	Phase transformation induces plasticity with negligible damage in ceria-stabilized zirconia-based ceramics. <i>Acta Materialia</i> , 2020, 183, 261-273.	7.9	40
42	Mapping of residual stresses around an indentation in β -Si ₃ N ₄ using Raman spectroscopy. <i>Journal of Materials Science</i> , 1997, 32, 5419-5423.	3.7	39
43	Toward SERS-based point-of-care approaches for therapeutic drug monitoring: the case of methotrexate. <i>Faraday Discussions</i> , 2016, 187, 485-499.	3.2	39
44	Spatial distribution of heme species in erythrocytes infected with <i>Plasmodium falciparum</i> by use of resonance Raman imaging and multivariate analysis. <i>Analytical and Bioanalytical Chemistry</i> , 2008, 392, 1277-1282.	3.7	37
45	NDE assessment of TBCs: an interim report of a photo-stimulated luminescence "round-robin" test. <i>Surface and Coatings Technology</i> , 2003, 163-164, 87-94.	4.8	35
46	Raman spectroscopic study of bioactive silica-based glasses: The role of the alkali/alkali earth ratio on the Non-Bridging Oxygen/Bridging Oxygen (NBO/BO) ratio. <i>Spectroscopy</i> , 2009, 23, 227-232.	0.8	34
47	The effect of wear on the tetragonal-to-monoclinic transformation and the residual stress distribution in zirconia-toughened alumina cutting tools. <i>Wear</i> , 1998, 214, 264-270.	3.1	33
48	Enhanced Oral Bioavailability of Vinpocetine Through Mechanochemical Salt Formation: Physico-Chemical Characterization and In Vivo Studies. <i>Pharmaceutical Research</i> , 2011, 28, 1870-1883.	3.5	33
49	SERS of cells: What can we learn from cell lysates?. <i>Analytica Chimica Acta</i> , 2018, 1005, 93-100.	5.4	32
50	Stress Dependence of the Raman Spectrum of β -Silicon Nitride. <i>Journal of the American Ceramic Society</i> , 1996, 79, 781-784.	3.8	31
51	Raman and FTIR imaging of lung tissue: Methodology for control samples. <i>Vibrational Spectroscopy</i> , 2008, 46, 141-149.	2.2	31
52	Optimization and Characterization of Paper-Made Surface Enhanced Raman Scattering (SERS) Substrates with Au and Ag NPs for Quantitative Analysis. <i>Materials</i> , 2017, 10, 1365.	2.9	28
53	Repeated double cross-validation applied to the PCA-LDA classification of SERS spectra: a case study with serum samples from hepatocellular carcinoma patients. <i>Analytical and Bioanalytical Chemistry</i> , 2021, 413, 1303-1312.	3.7	28
54	Deformation Bands in Ceria-Stabilized Tetragonal Zirconia/Alumina : II, Stress-Induced Aging at Room Temperature. <i>Journal of the American Ceramic Society</i> , 1995, 78, 641-644.	3.8	25

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55	Characterization of hybrid bilayer membranes on silver electrodes as biocompatible SERS substrates to study membrane-protein interactions. <i>Colloids and Surfaces B: Biointerfaces</i> , 2010, 81, 212-216.	5.0	25
56	Differentiation between stages of non-alcoholic fatty liver diseases using surface-enhanced Raman spectroscopy. <i>Analytica Chimica Acta</i> , 2020, 1110, 190-198.	5.4	25
57	Residual Stresses in Alumina/Zirconia Composites: Effect of Cooling Rate and Grain Size. <i>Journal of the American Ceramic Society</i> , 2001, 84, 2962-2968.	3.8	24
58	A Raman spectroscopy study of the oxidation processes in synthetic chromite FeCr ₂ O ₄ . <i>Ceramics International</i> , 2020, 46, 29382-29387.	4.8	23
59	Raman Piezo-Spectroscopic Behavior of Aluminum Nitride. <i>Applied Spectroscopy</i> , 1997, 51, 1761-1765.	2.2	22
60	Strengthening contribution arising from residual stresses in Al ₂ O ₃ /ZrO ₂ composites: a piezo-Spectroscopy investigation. <i>Journal of the European Ceramic Society</i> , 1999, 19, 247-253.	5.7	22
61	Is ceramic-ceramic squeaking phenomenon reproducible <i>in vitro</i> ? A long-term simulator study under severe conditions. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2009, 91B, 264-271.	3.4	22
62	Residual Stresses and Apparent Strengthening in Ceramic-Matrix Nanocomposites. <i>Journal of the Ceramic Society of Japan</i> , 1996, 104, 497-503.	1.3	21
63	Raman Investigation of the Nitridation of Yttria-Stabilized Tetragonal Zirconia. <i>Journal of the American Ceramic Society</i> , 2003, 86, 169-173.	3.8	20
64	Ergothioneine, a dietary amino acid with a high relevance for the interpretation of label-free surface enhanced Raman scattering (SERS) spectra of many biological samples. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2021, 246, 119024.	3.9	20
65	Nature, Source and Function of Pigments in Tardigrades: In Vivo Raman Imaging of Carotenoids in <i>Echiniscus blumi</i> . <i>PLoS ONE</i> , 2012, 7, e50162.	2.5	20
66	Mechanically Induced Zone Darkening of Alumina/Ceria-Stabilized Zirconia Composites. <i>Journal of the American Ceramic Society</i> , 1994, 77, 2971-2976.	3.8	19
67	Long-term stability of an injection-molded zirconia bone-level implant: A testing protocol considering aging kinetics and dynamic fatigue. <i>Dental Materials</i> , 2017, 33, 954-965.	3.5	19
68	pH-Dependent Peroxidase Activity of Yeast Cytochrome <i>c</i> and Its Triple Mutant Adsorbed on Kaolinite. <i>Langmuir</i> , 2011, 27, 10683-10690.	3.5	18
69	Synthesis and multidisciplinary characterization of polyelectrolyte multilayer-coated nanogold with improved stability toward aggregation. <i>Colloid and Polymer Science</i> , 2011, 289, 269-280.	2.1	16
70	Application of R-mode analysis to Raman maps: a different way of looking at vibrational hyperspectral data. <i>Analytical and Bioanalytical Chemistry</i> , 2015, 407, 1089-1095.	3.7	16
71	Raman and FTIR imaging of lung tissue: bronchopulmonary sequestration. <i>Journal of Raman Spectroscopy</i> , 2009, 40, 595-603.	2.5	15
72	Piezospectroscopic Analysis of the Residual Stresses in the Strontium Hexaluminate/Zirconia (SrAl ₁₂ O ₁₉ /ZrO ₂) System. <i>Journal of the American Ceramic Society</i> , 1999, 82, 3145-3149.	3.8	14

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73	Room-Temperature Aging of Laminate Composites of Alumina/3-mol%-Yttria-Stabilized Tetragonal Zirconia Polycrystals. <i>Journal of the American Ceramic Society</i> , 2004, 87, 247-253.	3.8	13
74	The effect of ageing on the elastic modulus and degree of conversion of two multistep adhesive systems. <i>European Journal of Oral Sciences</i> , 2010, 118, 304-310.	1.5	13
75	Raman Spectroscopy and Imaging: Promising Optical Diagnostic Tools in Pediatrics. <i>Current Medicinal Chemistry</i> , 2013, 20, 2176-2187.	2.4	13
76	Axial iron coordination and spin state change in a heme c upon electrostatic protein-SAM interaction. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 13499.	2.8	12
77	Danon Disease-Associated LAMP-2 Deficiency Drives Metabolic Signature Indicative of Mitochondrial Aging and Fibrosis in Cardiac Tissue and hiPSC-Derived Cardiomyocytes. <i>Journal of Clinical Medicine</i> , 2020, 9, 2457.	2.4	12
78	Wear mechanisms and residual stresses in alumina-based laminated cutting tools. <i>Wear</i> , 2005, 258, 1372-1378.	3.1	11
79	Biofluids and other techniques: general discussion. <i>Faraday Discussions</i> , 2016, 187, 575-601.	3.2	11
80	Label-free analysis of gingival crevicular fluid (GCF) by surface enhanced Raman scattering (SERS). <i>Analyst</i> , 2021, 146, 1464-1471.	3.5	11
81	Reliability of an injection-moulded two-piece zirconia implant with PEKK abutment after long-term thermo-mechanical loading. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2020, 110, 103967.	3.1	9
82	Raman investigation of the ageing of Ni-BaTiO ₃ multilayer ceramic capacitors. <i>Journal of Materials Science</i> , 2008, 43, 922-926.	3.7	8
83	Influence of erbia or europia doping on crystal structure and microstructure of ceria-zirconia (CZ) solid solutions. <i>Ceramics International</i> , 2008, 34, 1327-1333.	4.8	8
84	The Role of Surface Enhanced Raman Scattering for Therapeutic Drug Monitoring of Antimicrobial Agents. <i>Chemosensors</i> , 2022, 10, 128.	3.6	8
85	Shape Memory-Like Effect Phenomena in a Ce-TZP/Al ₂ O ₃ Composite. <i>Journal of the American Ceramic Society</i> , 1992, 75, 2003-2005.	3.8	7
86	Indirect Determination of the Piezospectroscopic Coefficients of Ceria-Stabilized Tetragonal Zirconia Polycrystals. <i>Journal of the American Ceramic Society</i> , 2002, 85, 2855-2857.	3.8	7
87	The key role of ergothioneine in label-free surface-enhanced Raman scattering spectra of biofluids: a retrospective reassessment of the literature. <i>FEBS Letters</i> , 2022, 596, 1348-1355.	2.8	7
88	Raman Spectroscopic Investigation of the Stress State in Silicon Substrates near Edges of Pt/PZT Microstructures. <i>Crystal Research and Technology</i> , 2000, 35, 449-460.	1.3	6
89	Synthesis of Pure Monolithic Calcium, Strontium, and Barium Hexaluminates for Catalytic Applications. <i>Journal of the American Ceramic Society</i> , 2000, 83, 1524-1526.	3.8	6
90	Piezo-spectroscopic behavior of the emission bands of γ -alumina in the 13900-14250 cm ⁻¹ spectral range. <i>Journal of Materials Science</i> , 2005, 40, 1593-1597.	3.7	6

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91	Clinical Spectroscopy: general discussion. Faraday Discussions, 2016, 187, 429-460.	3.2	6
92	Label-free Surface Enhanced Raman Scattering (SERS) on Centrifugal Silver Plasmonic Paper (CSPP): A Novel Methodology for Unprocessed Biofluids Sampling and Analysis. Biosensors, 2021, 11, 467.	4.7	6
93	Effect of interface chemistry on the mechanical properties of Si3N4-matrix composites. Journal of Materials Science, 1999, 34, 1667-1680.	3.7	5
94	Implementation of maskless laser lithography using a Raman spectroscopy microprobe. Review of Scientific Instruments, 2008, 79, 096103.	1.3	5
95	Surface-enhanced Raman effect in hybrid metal-semiconductor nanoparticle assemblies. Journal of Nanoparticle Research, 2013, 15, 1.	1.9	5
96	Binding of p-mercaptobenzoic acid and adenine to gold-coated electroless etched silicon nanowires studied by surface-enhanced Raman scattering. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2018, 200, 102-109.	3.9	5
97	Potential use of MCR-ALS for the identification of coeliac-related biochemical changes in hyperspectral Raman maps from pediatric intestinal biopsies. Integrative Biology (United Kingdom), 2018, 10, 356-363.	1.3	5
98	Thermally induced changes in the ceria zirconia system. Thermochemica Acta, 1988, 133, 113-118.	2.7	4
99	Spectroscopic investigation of faeces with surface-enhanced Raman scattering: a case study with coeliac patients on gluten-free diet. Analytical and Bioanalytical Chemistry, 2022, 414, 3517-3527.	3.7	3
100	Thermal expansion and percolation in a SiC whisker-reinforced ceramic composite. Journal of Materials Science Letters, 1991, 10, 855-857.	0.5	2
101	Experimental and Theoretical Investigations of the Chemotherapeutic Drug Capecitabine. Journal of Molecular Structure, 2022, 1250, 131577.	3.6	2
102	Rare earths in ceramic materials technology. Materials Chemistry and Physics, 1992, 31, 37-43.	4.0	1
103	Portable Optical System for In-Situ Thermal Barrier Assessment of Service Operated Blades. , 2006, , 647.		1
104	Fine Determination of Monoclinic Phase in Zirconia-Based Implants: A Surface-Enhanced Raman Spectroscopy (SERS) Study. Journal of Nanoscience and Nanotechnology, 2020, 20, 2430-2435.	0.9	1
105	Local Measurements of Temperature Changes Associated with the Stress-Induced Tetragonal to Monoclinic Transformation in Zirconia. Journal of the American Ceramic Society, 1993, 76, 1377-1380.	3.8	0
106	Patterning of fibronectin using laser writer for force measurement in cells. Proceedings of SPIE, 2009, , .	0.8	0
107	On the possibility of low cost, adherent therapeutic drug monitoring in oncology. Proceedings of SPIE, 2016, , .	0.8	0
108	Implementation of Fibronectin Patterning with a Raman Spectroscopy Microprobe for Focal Adhesions Studies in Cells. IFMBE Proceedings, 2009, , 2076-2078.	0.3	0

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109	Low-Level Monoclinic Content Detection in Zirconia Implants Using Raman Spectroscopy. NATO Science for Peace and Security Series B: Physics and Biophysics, 2015, , 539-540.	0.3	0
110	Towards the standardization of fullerene nanofibers using Raman spectroscopy. , 2015, , .		0
111	Bioactive porous scaffolds for tissue engineering applications: investigation on the degradation process by Raman spectroscopy and scanning electron microscopy. Journal of Applied Biomaterials and Biomechanics, 2006, 4, 102-9.	0.4	0