Andreas Mandelis

List of Publications by Citations

388 papers	6,432 citations	39 h-index	60 g-index
660 ext. papers	7,057 ext. citations	2.6 avg, IF	6.17 L-index

#	Paper	IF	Citations
388	Theory of photopyroelectric spectroscopy of solids. *Journal of Applied Physics*, **1985**, 57, 4421-4430	2.5	306
387	Diffusion-Wave Fields **2001**,		216
386	Solid-state sensors for trace hydrogen gas detection. *Journal of Applied Physics*, **1990**, 68, R1-R30	2.5	182
385	Thermal-wave resonator cavity. *Review of Scientific Instruments*, **1995**, 66, 4999-5005	1.7	151
384	Diffusion Waves and their Uses. *Physics Today*, **2000**, 53, 29-34	0.9	147
383	Infrared photocarrier radiometry of semiconductors: Physical principles, quantitative depth profilometry, and scanning imaging of deep subsurface electronic defects. *Physical Review B*, **2003**, 67,	3.3	136
382	Thermal-wave resonator cavity design and measurements of the thermal diffusivity of liquids. *Review of Scientific Instruments*, **2000**, 71, 2933-2937	1.7	89
381	Thermal-wave radar: a novel subsurface imaging modality with extended depth-resolution dynamic range. *Review of Scientific Instruments*, **2009**, 80, 034902	1.7	86
380	Absolute optical absorption coefficient measurements using transverse photothermal deflection spectroscopy. *Journal of Applied Physics*, **1983**, 54, 3404-3409	2.5	80
379	Thermophotonic radar imaging: An emissivity-normalized modality with advantages over phase lock-in thermography. *Applied Physics Letters*, **2011**, 98, 163706	3.4	79
378	Temperature dependence of carrier mobility in Si wafers measured by infrared photocarrier radiometry. *Applied Physics Letters*, **2003**, 82, 4077-4079	3.4	73
377	Structure and the Reflectionless/Refractionless Nature of Parabolic Diffusion-Wave Fields. *Physical Review Letters*, **2001**, 87,	7.4	68
376	Time-domain photoacoustic spectroscopy of solids. *Journal of Applied Physics*, **1979**, 50, 4330-4338	2.5	66
375	Truncated-correlation photothermal coherence tomography for deep subsurface analysis. *Nature Photonics*, **2014**, 8, 635-642	33.9	62
374	Thermal coherence tomography using match filter binary phase coded diffusion waves. *Physical Review Letters*, **2011**, 107, 165901	7.4	58
373	Photoacoustic frequency-domain depth profiling of continuously inhomogeneous condensed phases: Theory and simulations for the inverse problem. *Journal of Applied Physics*, **1991**, 70, 1761-1770	2.5	56
372	Laser infrared photothermal radiometry of semiconductors: principles and applications to solid state electronics. *Solid-State Electronics*, **1998**, 42, 1-15	1.7	54

371	Frequency-domain photothermoacoustics: Alternative imaging modality of biological tissues. *Journal of Applied Physics*, **2009**, 105, 102029	2.5	53
370	Frequency modulated (FM) time delay photoacoustic and photothermal wave spectroscopies. Technique, instrumentation, and detection. Part I: Theoretical. *Review of Scientific Instruments*, **1986**, 57, 617-621	1.7	52
369	Thermal diffusivity measurements in the photoacoustic open-cell configuration using simple signal normalization techniques. *Journal of Applied Physics*, **2001**, 90, 2273-2279	2.5	51
368	Fourier-domain biophotoacoustic subsurface depth selective amplitude and phase imaging of turbid phantoms and biological tissue. *Journal of Biomedical Optics*, **2006**, 11, 044006	3.5	49
367	Generalized methodology for thermal diffusivity depth profile reconstruction in semi-infinite and finitely thick inhomogeneous solids. *Journal of Applied Physics*, **1996**, 80, 5570-5578	2.5	47
366	Measurement accuracy analysis of photocarrier radiometric determination of electronic transport parameters of silicon wafers. *Journal of Applied Physics*, **2005**, 97, 023701	2.5	46
365	Polypyrrole nanoparticles as a thermal transducer of NIR radiation in hot-melt adhesives. *Journal of Materials Chemistry*, **2007**, 17, 4309		45
364	Development of a laser photothermoacoustic frequency-swept system for subsurface imaging: theory and experiment. *Journal of the Acoustical Society of America*, **2004**, 116, 3523-33	2.2	45
363	Signal generation mechanisms, intracavity-gas thermal-diffusivity temperature dependence, and absolute infrared emissivity measurements in a thermal-wave resonant cavity. *Review of Scientific Instruments*, **1998**, 69, 197-203	1.7	45
362	Pyroelectric sensors for the photothermal analysis of condensed phases. *Ferroelectrics*, **1991**, 118, 379-406		45
361	Frequency modulated (FM) time delay photoacoustic and photothermal wave spectroscopies. Technique, instrumentation, and detection. Part II: Mirage effect spectrometer design and performance. *Review of Scientific Instruments*, **1986**, 57, 622-629	1.7	45
360	Application of a generalized methodology for quantitative thermal diffusivity depth profile reconstruction in manufactured inhomogeneous steel-based materials. *Journal of Applied Physics*, **1998**, 83, 3495-3498	2.5	44
359	Photothermal reflectance investigation of processed silicon. I. Room-temperature study of the induced damage and of the annealing kinetics of defects in ion-implanted wafers. *Journal of Applied Physics*, **1990**, 67, 2815-2821	2.5	44
358	Diagnosis of pit and fissure caries using frequency-domain infrared photothermal radiometry and modulated laser luminescence. *Caries Research*, **2004**, 38, 497-513	4.2	43
357	Self-normalized photothermal technique for accurate thermal diffusivity measurements in thin metal layers. *Review of Scientific Instruments*, **2003**, 74, 5219-5225	1.7	43
356	Infrared lock-in carrierography (photocarrier radiometric imaging) of Si solar cells. *Journal of Applied Physics*, **2010**, 107, 114513	2.5	42
355	Comparison between pulsed laser and frequency-domain photoacoustic modalities: signal-to-noise ratio, contrast, resolution, and maximum depth detectivity. *Review of Scientific Instruments*, **2011**, 82, 094903	1.7	42
354	Signal-to-noise analysis of biomedical photoacoustic measurements in time and frequency domains. *Review of Scientific Instruments*, **2010**, 81, 124901	1.7	41

353	Self-consistent photothermal techniques: Application for measuring thermal diffusivity in vegetable oils. *Review of Scientific Instruments*, **2003**, 74, 700-702	1.7	41
352	Thermal-wave resonant-cavity measurements of the thermal diffusivity of air: A comparison between cavity-length and modulation-frequency scans. *International Journal of Thermophysics*, **1996**, 17, 1241-1254	2.1	41
351	Signal-to-noise ratio in lock-in amplifier synchronous detection: A generalized communications systems approach with applications to frequency, time, and hybrid (rate window) photothermal measurements. *Review of Scientific Instruments*, **1994**, 65, 3309-3323	1.7	41
350	Computational Aspects of Laser Radiometric Multiparameter Fit for Carrier Transport Property Measurements in Si Wafers. *Journal of the Electrochemical Society*, **2000**, 147, 687	3.9	39
349	Photothermal Radiometry with Solid Cylindrical Samples. *Journal of Applied Physics*, **2004**, 96, 3756-3762	2.5	38
348	Photoacoustic frequency-domain depth profilometry of surface-layer inhomogeneities: Application to laser processed steels. *Journal of Applied Physics*, **1992**, 71, 6029-6035	2.5	37
347	Accuracy of photocarrier radiometric measurement of electronic transport properties of ion-implanted silicon wafers. *Journal of Applied Physics*, **2004**, 96, 186-196	2.5	36
346	Nonintrusive, noncontacting frequency-domain photothermal radiometry and luminescence depth profilometry of carious and artificial subsurface lesions in human teeth. *Journal of Biomedical Optics*, **2004**, 9, 804-19	3.5	36
345	Coupled ac photocurrent and photothermal reflectance response theory of semiconducting p-n junctions. I. *Journal of Applied Physics*, **1989**, 66, 5572-5583	2.5	35
344	Photopyroelectric thin-film instrumentation and impulse-response detection. Part I: A theoretical model. *Review of Scientific Instruments*, **1987**, 58, 2018-2023	1.7	35
343	Three-layer photocarrier radiometry model of ion-implanted silicon wafers. *Journal of Applied Physics*, **2004**, 95, 7832-7840	2.5	34
342	Thermal-wave nondestructive evaluation of cylindrical composite structures using frequency-domain photothermal radiometry. *Journal of Applied Physics*, **2005**, 97, 014911	2.5	34
341	Thermophysical Properties of Thermal Sprayed Coatings on Carbon Steel Substrates by Photothermal Radiometry. *International Journal of Thermophysics*, **1999**, 20, 1587-1602	2.1	34
340	Noncontact measurement of transport properties of long-bulk-carrier-lifetime Si wafers using photothermal radiometry. *Applied Physics Letters*, **1996**, 69, 2522-2524	3.4	34
339	Photothermal wave imaging of metal-oxide-semiconductor field-effect transistor structures. *Journal of Applied Physics*, **1988**, 63, 92-98	2.5	34
338	Frequency-domain photoacoustic phased array probe for biomedical imaging applications. *Optics Letters*, **2011**, 36, 4560-2	3	33
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336	Relative sensitivity of photomodulated reflectance and photothermal infrared radiometry to thermal and carrier plasma waves in semiconductors. *Journal of Applied Physics*, **1997**, 82, 1853-1859	2.5	33

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333	Linear frequency modulation photoacoustic radar: optimal bandwidth and signal-to-noise ratio for frequency-domain imaging of turbid media. *Journal of the Acoustical Society of America*, **2011**, 130, 1313-24	2.2	32
332	Noninvasive glucose detection in human skin using wavelength modulated differential laser photothermal radiometry. *Biomedical Optics Express*, **2012**, 3, 3012-21	3.5	32
331	Photothermal reflectance investigation of processed silicon. II. Signal generation and lattice temperature dependence in ion-implanted and amorphous thin layers. *Journal of Applied Physics*, **1990**, 67, 2822-2830	2.5	32
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329	Imbalanced charge carrier mobility and Schottky junction induced anomalous current-voltage characteristics of excitonic PbS colloidal quantum dot solar cells. *Solar Energy Materials and Solar Cells*, **2016**, 155, 155-165	6.4	31
328	Detection of interproximal demineralized lesions on human teeth in vitro using frequency-domain infrared photothermal radiometry and modulated luminescence. *Journal of Biomedical Optics*, **2007**, 12, 034028	3.5	31
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323	Photoacoustic radar imaging signal-to-noise ratio, contrast, and resolution enhancement using nonlinear chirp modulation. *Optics Letters*, **2010**, 35, 1623-5	3	29
322	High-Precision and High-Resolution Measurements of Thermal Diffusivity and Infrared Emissivity of Water□ethanol Mixtures Using a Pyroelectric Thermal Wave Resonator Cavity: Frequency-Scan Approach. *International Journal of Thermophysics*, **2005**, 26, 837-854	2.1	29
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319	Photopyroelectric thin-film instrumentation and impulse-response detection. Part II: Methodology. *Review of Scientific Instruments*, **1987**, 58, 2024-2032	1.7	29
318	Exciton Lifetime Broadening and Distribution Profiles of PbS Colloidal Quantum Dot Thin Films Using Frequency- and Temperature-Scanned Photocarrier Radiometry. *Journal of Physical Chemistry C*, **2013**, 117, 23333-23348	3.8	27

317	Quantitative self-calibrating lock-in carrierographic lifetime imaging of silicon wafers. *Applied Physics Letters*, **2012**, 101, 242107	3.4	27
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309	Carrier-density-wave transport property depth profilometry using spectroscopic photothermal radiometry of silicon wafers I: Theoretical aspects. *Journal of Applied Physics*, **2003**, 93, 5236-5243	2.5	24
308	Measurements of the thermodynamic equation of state via the pressure dependence of thermophysical properties of air by a thermal-wave resonant cavity. *Review of Scientific Instruments*, **1998**, 69, 2918-2923	1.7	24
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302	Simultaneous dual-wavelength photoacoustic radar imaging using waveform engineering with mismatched frequency modulated excitation. *Optics Letters*, **2015**, 40, 1145-8	3	22
301	Quantitative Analysis of Trap-State-Mediated Exciton Transport in Perovskite-Shelled PbS Quantum Dot Thin Films Using Photocarrier Diffusion-Wave Nondestructive Evaluation and Imaging. *Journal of Physical Chemistry C*, **2016**, 120, 14416-14427	3.8	22
300	Coregistered photoacoustic and ultrasonic signatures of early bone density variations. *Journal of Biomedical Optics*, **2014**, 19, 36015	3.5	22

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