D Robert Iskander

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Optimal modeling of corneal surfaces with Zernike polynomials. IEEE Transactions on Biomedical Engineering, 2001, 48, 87-95.	2.5	148
2	Diurnal Variation of Axial Length, Intraocular Pressure, and Anterior Eye Biometrics. , 2008, 49, 2911.		137
3	Estimation of the parameters of the K-distribution using higher order and fractional moments [radar clutter]. IEEE Transactions on Aerospace and Electronic Systems, 1999, 35, 1453-1457.	2.6	107
4	Corneal topography with Scheimpflug imaging and videokeratography: Comparative study of normal eyes. Journal of Cataract and Refractive Surgery, 2009, 35, 1072-1081.	0.7	90
5	Depth of focus and visual acuity with primary and secondary spherical aberration. Vision Research, 2011, 51, 1648-1658.	0.7	90
6	The Stability of Corneal Topography in the Post-Blink Interval. Cornea, 2001, 20, 826-833.	0.9	77
7	Corneal Topography and Accommodation. Cornea, 2003, 22, 311-316.	0.9	71
8	A method for estimating the parameters of the K distribution. IEEE Transactions on Signal Processing, 1999, 47, 1147-1151.	3.2	69
9	Modeling of corneal surfaces with radial polynomials. IEEE Transactions on Biomedical Engineering, 2002, 49, 320-328.	2.5	63
10	Retinal image quality, reading and myopia. Vision Research, 2006, 46, 196-215.	0.7	61
11	Principles of operation, accuracy and precision of an Eye Surface Profiler. Ophthalmic and Physiological Optics, 2016, 36, 266-278.	1.0	57
12	Applications of highâ€speed videokeratoscopy. Australasian journal of optometry, The, 2005, 88, 223-231.	0.6	54
13	Blinking Patterns and Corneal Staining. Eye and Contact Lens, 2006, 32, 287-293.	0.8	53
14	Analyzing the Dynamic Wavefront Aberrations in the Human Eye. IEEE Transactions on Biomedical Engineering, 2004, 51, 1969-1980.	2.5	51
15	Computational Aspects of the Visual Strehl Ratio. Optometry and Vision Science, 2006, 83, 57-59.	0.6	48
16	Predicting Dry Eye Using Noninvasive Techniques of Tear Film Surface Assessment. , 2011, 52, 751.		48
17	Microfluctuations of wavefront aberrations of the eye. Ophthalmic and Physiological Optics, 2004, 24, 562-571.	1.0	47
18	Evaluating Tear Film Stability in the Human Eye With High-Speed Videokeratoscopy. IEEE Transactions on Biomedical Engineering, 2005, 52, 1939-1949.	2.5	45

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19	Estimation of the depth of focus from wavefront measurements. Journal of Vision, 2010, 10, 1-9.	0.1	43
20	Objective refraction from monochromatic wavefront aberrations via Zernike power polynomials. Ophthalmic and Physiological Optics, 2007, 27, 245-255.	1.0	42
21	Organization of Lipids in the Tear Film: A Molecular-Level View. PLoS ONE, 2014, 9, e92461.	1.1	41
22	Assessment of corneal properties based on statistical modeling of OCT speckle. Biomedical Optics Express, 2017, 8, 162.	1.5	39
23	Ocular Microfluctuations and Videokeratoscopy. Cornea, 2002, 21, 346-351.	0.9	38
24	Mean shape of the human limbus. Journal of Cataract and Refractive Surgery, 2017, 43, 667-672.	0.7	38
25	The stability test for symmetric alpha-stable distributions. IEEE Transactions on Signal Processing, 2005, 53, 977-986.	3.2	36
26	Automatic Pupillometry From Digital Images. IEEE Transactions on Biomedical Engineering, 2004, 51, 1619-1627.	2.5	35
27	Precise measurement of scleral radius using anterior eye profilometry. Contact Lens and Anterior Eye, 2017, 40, 47-52.	0.8	35
28	Tear Film Surface Quality With Soft Contact Lenses Using Dynamic-Area High-Speed Videokeratoscopy. Eye and Contact Lens, 2009, 35, 227-231.	0.8	34
29	Scleral changes with accommodation. Ophthalmic and Physiological Optics, 2017, 37, 263-274.	1.0	34
30	Noninvasive In Vivo Assessment of Soft Contact Lens Type on Tear Film Surface Quality. , 2012, 53, 525.		33
31	Dynamics of ocular surface topography. Eye, 2007, 21, 624-632.	1.1	32
32	Blur detection thresholds in childhood myopia: single and dual target presentation. Vision Research, 2002, 42, 239-247.	0.7	30
33	Spectral characteristics of longitudinal corneal apex velocities and their relation to the cardiopulmonary system. Eye, 2007, 21, 1212-1219.	1.1	29
34	Tear Film Surface Quality with Soft Contact Lenses Using Dynamic Videokeratoscopy. Journal of Optometry, 2008, 1, 14-21.	0.7	29
35	Lateral shearing interferometry, dynamic wavefront sensing, and high-speed videokeratoscopy for noninvasive assessment of tear film surface characteristics: a comparative study. Journal of Biomedical Optics, 2010, 15, 037005.	1.4	29
36	The Morphology of the Palpebral Fissure in Different Directions of Vertical Gaze. Optometry and Vision Science, 2006, 83, 715-722.	0.6	28

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37	Zernike vs. Bessel circular functions in visual optics. Ophthalmic and Physiological Optics, 2013, 33, 394-402.	1.0	28
38	Corneo-scleral limbus demarcation from 3D height data. Contact Lens and Anterior Eye, 2016, 39, 450-457.	0.8	28
39	Automatic estimation of the corneal limbus in videokeratoscopy. IEEE Transactions on Biomedical Engineering, 2002, 49, 1617-1625.	2.5	27
40	Lateral Shearing Interferometry for Analysis of Tear Film Surface Kinetics. Optometry and Vision Science, 2010, 87, 513-517.	0.6	26
41	Ultrasonic Measurement of Fine Head Movements in a Standard Ophthalmic Headrest. IEEE Transactions on Instrumentation and Measurement, 2010, 59, 164-170.	2.4	26
42	Scleral asymmetry as a potential predictor for scleral lens compression. Ophthalmic and Physiological Optics, 2018, 38, 609-616.	1.0	26
43	Approximating ocular surfaces by generalised conic curves. Ophthalmic and Physiological Optics, 2006, 26, 602-609.	1.0	25
44	Mathematical models for describing the shape of the in vitro unstretched human crystalline lens. Vision Research, 2009, 49, 2442-2452.	0.7	24
45	A Novel Automated Approach for Infrared-Based Assessment of Meibomian Gland Morphology. Translational Vision Science and Technology, 2019, 8, 17.	1.1	24
46	Rotation asymmetry of the human sclera. Acta Ophthalmologica, 2019, 97, e266-e270.	0.6	24
47	Dynamics in longitudinal eye movements and corneal shape. Ophthalmic and Physiological Optics, 2006, 26, 572-579.	1.0	23
48	Modeling Corneal Surfaces With Rational Functions for High-Speed Videokeratoscopy Data Compression. IEEE Transactions on Biomedical Engineering, 2009, 56, 493-499.	2.5	23
49	Assessment of Tear Film Surface Quality Using Dynamic-Area High-Speed Videokeratoscopy. IEEE Transactions on Biomedical Engineering, 2009, 56, 1473-1481.	2.5	23
50	The Role of Cardiopulmonary Signals in the Dynamics of the Eye's Wavefront Aberrations. IEEE Transactions on Biomedical Engineering, 2010, 57, 373-383.	2.5	23
51	Future Directions in Non-Invasive Measurements of Tear Film Surface Kinetics. Optometry and Vision Science, 2012, 89, 749-759.	0.6	23
52	Diagnosing dry eye with dynamic-area high-speed videokeratoscopy. Journal of Biomedical Optics, 2011, 16, 076012.	1.4	22
53	Anterior eye surface changes following miniscleral contact lens wear. Contact Lens and Anterior Eye, 2019, 42, 70-74.	0.8	22
54	A Parametric Approach to Measuring Limbus Corneae From Digital Images. IEEE Transactions on Biomedical Engineering, 2006, 53, 1134-1140.	2.5	21

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55	Robust estimation of tear film surface quality in lateral shearing interferometry. Journal of Biomedical Optics, 2009, 14, 064039.	1.4	21
56	Interaction of lysozyme with a tear film lipid layer model: A molecular dynamics simulation study. Biochimica Et Biophysica Acta - Biomembranes, 2017, 1859, 2289-2296.	1.4	21
57	The contribution of accommodation and the ocular surface to the microfluctuations of wavefront aberrations of the eye. Ophthalmic and Physiological Optics, 2006, 26, 439-446.	1.0	20
58	Ultrasonic In Vivo Measurement of Ocular Surface Expansion. IEEE Transactions on Biomedical Engineering, 2011, 58, 674-680.	2.5	20
59	Assessing Efficacy of Canaloplasty Using Continuous 24-Hour Monitoring of Ocular Dimensional Changes. , 2016, 57, 2533.		20
60	Corneo-scleral limbal changes following short-term soft contact lens wear. Contact Lens and Anterior Eye, 2017, 40, 293-300.	0.8	19
61	Meibomian Gland Morphology: The Influence of Structural Variations on Gland Function and Ocular Surface Parameters. Cornea, 2019, 38, 1506-1512.	0.9	19
62	Combining Central and Peripheral Videokeratoscope Maps to Investigate Total Corneal Topography. Eye and Contact Lens, 2006, 32, 27-32.	0.8	18
63	Potential Higher-Order Aberration Cues for Sphero-Cylindrical Refractive Error Development. Optometry and Vision Science, 2007, 84, 163-174.	0.6	18
64	Estimating Corneal Surface Topography in Videokeratoscopy in the Presence of Strong Signal Interference. IEEE Transactions on Biomedical Engineering, 2008, 55, 2381-2387.	2.5	18
65	The influence of downward gaze and accommodation on ocular aberrations over time. Journal of Vision, 2011, 11, 17-17.	0.1	18
66	Statistical shape models of cuboid, navicular and talus bones. Journal of Foot and Ankle Research, 2017, 10, 6.	0.7	18
67	The tear turnover and tear clearance tests – a review. Expert Review of Medical Devices, 2018, 15, 219-229.	1.4	18
68	Corneal Properties of Keratoconus Based on Scheimpflug Light Intensity Distribution. , 2019, 60, 3197.		18
69	Keratoconus Detection Based on a Single Scheimpflug Image. Translational Vision Science and Technology, 2020, 9, 36.	1.1	18
70	A Refined Bootstrap Method for Estimating the Zernike Polynomial Model Order for Corneal Surfaces. IEEE Transactions on Biomedical Engineering, 2004, 51, 2203-2206.	2.5	17
71	Modeling Videokeratoscopic Height Data with Spherical Harmonics. Optometry and Vision Science, 2009, 86, 542-547.	0.6	17
72	The utility of measuring tear film break-up time for prescribing contact lenses. Contact Lens and Anterior Eye, 2018, 41, 105-109.	0.8	17

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73	Age-Related Changes in Corneal Pulsation. Optometry and Vision Science, 2014, 91, 54-59.	0.6	16
74	Evaluating displacement of lamina cribrosa following glaucoma surgery. Graefe's Archive for Clinical and Experimental Ophthalmology, 2018, 256, 791-800.	1.0	16
75	Glaucomatous and Age-Related Changes in Corneal Pulsation Shape. The Ocular Dicrotism. PLoS ONE, 2014, 9, e102814.	1.1	16
76	Bootstrapping bispectra: an application to testing for departure from Gaussianity of stationary signals. IEEE Transactions on Signal Processing, 1999, 47, 880-884.	3.2	15
77	Bootstrap modeling of a class of nonstationary signals. IEEE Transactions on Signal Processing, 2000, 48, 399-408.	3.2	15
78	Optically inspired biomechanical model of the human eyeball. Journal of Biomedical Optics, 2008, 13, 044034.	1.4	15
79	Phase dependencies between longitudinal corneal apex displacement and cardiovascular signals: is the ocular pulse influenced by the electrical activity of the heart?. Australasian journal of optometry, The, 2012, 95, 631-637.	0.6	15
80	Automatic dynamic tear meniscus measurement in optical coherence tomography. Biomedical Optics Express, 2014, 5, 2759.	1.5	15
81	Statistical analysis of corneal OCT speckle: a non-parametric approach. Biomedical Optics Express, 2021, 12, 6407.	1.5	14
82	Statistical, Morphometric, Anatomical Shape Model (Atlas) of Calcaneus. PLoS ONE, 2015, 10, e0134603.	1.1	14
83	The Skew Ray Ambiguity in the Analysis of Videokeratoscopic Data. Optometry and Vision Science, 2007, 84, 435-442.	0.6	13
84	Bootstrap Methods in Signal Processing [From the Guest Editors]. IEEE Signal Processing Magazine, 2007, 24, 7-8.	4.6	13
85	Describing ocular aberrations with wavefront vergence maps. Australasian journal of optometry, The, 2009, 92, 194-205.	0.6	13
86	Zernike radial slope polynomials for wavefront reconstruction and refraction. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2009, 26, 1035.	0.8	13
87	Influence of eye biometrics and corneal micro-structure on noncontact tonometry. PLoS ONE, 2017, 12, e0177180.	1.1	13
88	Monochromatic aberrations and characteristics of retinal image quality. Australasian journal of optometry, The, 2000, 83, 315-322.	0.6	12
89	Influence of intraocular pressure on geometrical properties of a linear model of the eyeball: Effect of optical self-adjustment. Optik, 2004, 115, 517-524.	1.4	12
90	Clinical utility of spectral analysis of intraocular pressure pulse wave. BMC Ophthalmology, 2014, 14, 30.	0.6	12

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91	Applying time-frequency analysis to assess cerebral autoregulation during hypercapnia. PLoS ONE, 2017, 12, e0181851.	1.1	12
92	Assessing Corneal Speckle in Optical Coherence Tomography: A New Look at Glaucomatous Eyes. Optometry and Vision Science, 2020, 97, 62-67.	0.6	12
93	Mixed polar-nonpolar lipid films as minimalistic models of Tear Film Lipid Layer: A Langmuir trough and fluorescence microscopy study. Biochimica Et Biophysica Acta - Biomembranes, 2020, 1862, 183300.	1.4	12
94	Model-Order Selection in Zernike Polynomial Expansion of Corneal Surfaces Using the Efficient Detection Criterion. IEEE Transactions on Biomedical Engineering, 2010, 57, 2429-2437.	2.5	11
95	Application of texture analysis in tear film surface assessment based on videokeratoscopy. Journal of Optometry, 2013, 6, 185-193.	0.7	11
96	The effect of aberrations on objectively assessed image quality and depth of focus. Journal of Vision, 2017, 17, 2.	0.1	11
97	Assessment of Tear Film Using Videokeratoscopy Based on Fractal Dimension. Optometry and Vision Science, 2018, 95, 32-42.	0.6	11
98	Non-invasive pre-lens tear film assessment with high-speed videokeratoscopy. Contact Lens and Anterior Eye, 2018, 41, 18-22.	0.8	11
99	Glaucoma classification based on scanning laser ophthalmoscopic images using a deep learning ensemble method. PLoS ONE, 2021, 16, e0252339.	1.1	11
100	Enhancing the Standard Operating Range of a Placido Disk Videokeratoscope for Corneal Surface Estimation. IEEE Transactions on Biomedical Engineering, 2009, 56, 800-809.	2.5	10
101	The statistics of refractive error maps: managing wavefront aberration analysis without Zernike polynomials. Ophthalmic and Physiological Optics, 2009, 29, 292-299.	1.0	10
102	Tear Film Dynamics on Soft Contact Lenses. Optometry and Vision Science, 2014, 91, 1406-1411.	0.6	10
103	Age-Related Changes in Ocular Blood Velocity in Suspects with Glaucomatous Optic Disc Appearance. Comparison with Healthy Subjects and Glaucoma Patients. PLoS ONE, 2015, 10, e0134357.	1.1	10
104	A 12-month Prospective Study of Tear Osmolarity in Contact Lens Wearers Refitted with Daily Disposable Soft Contact Lenses. Optometry and Vision Science, 2020, 97, 178-185.	0.6	10
105	Omnibus test for normality based on the Edgeworth expansion. PLoS ONE, 2020, 15, e0233901.	1.1	10
106	Age-Related Changes in Corneal Deformation Dynamics Utilizing Scheimpflug Imaging. PLoS ONE, 2015, 10, e0140093.	1.1	9
107	Lamina Cribrosa Depth and Shape in Glaucoma Suspects. Comparison to Glaucoma Patients and Healthy Controls. Current Eye Research, 2019, 44, 1026-1033.	0.7	9
108	The effect of intraocular pressure elevation and related ocular biometry changes on corneal OCT speckle distribution in porcine eyes. PLoS ONE, 2021, 16, e0249213.	1.1	9

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109	Corneal Optical Coherence Tomography Speckle in Crosslinked and Untreated Rabbit Eyes in Response to Elevated Intraocular Pressure. Translational Vision Science and Technology, 2021, 10, 2.	1.1	9
110	Objective Measures of Pre-lens Tear Film Dynamics versus Visual Responses. Optometry and Vision Science, 2016, 93, 872-880.	0.6	8
111	In-vivo corneal pulsation in relation to in-vivo intraocular pressure and corneal biomechanics assessed in-vitro. An animal pilot study. Experimental Eye Research, 2017, 162, 27-36.	1.2	8
112	Evaluating tear clearance rate with optical coherence tomography. Contact Lens and Anterior Eye, 2018, 41, 54-59.	0.8	8
113	Supporting Dry Eye Diagnosis with a New Method for Noninvasive Tear Film Quality Assessment. Optometry and Vision Science, 2019, 96, 103-110.	0.6	8
114	Comparison of highâ€speed videokeratoscopy and ultrasound distance sensing for measuring the longitudinal corneal apex movements. Ophthalmic and Physiological Optics, 2009, 29, 227-234.	1.0	7
115	Measurement of ocular aberrations in downward gaze using a modified clinical aberrometer. Biomedical Optics Express, 2011, 2, 452.	1.5	7
116	Assessing the Feasibility of the Use of Video Motion Magnification for Measuring Microdisplacements. IEEE Transactions on Instrumentation and Measurement, 2017, 66, 2329-2336.	2.4	7
117	On the Methods for Estimating the Corneoscleral Limbus. IEEE Transactions on Biomedical Engineering, 2017, 64, 1826-1833.	2.5	6
118	Factors Influencing Pseudo-Accommodation—The Difference between Subjectively Reported Range of Clear Focus and Objectively Measured Accommodation Range. Vision (Switzerland), 2019, 3, 34.	0.5	6
119	Associating the biomarkers of ocular blood flow with lamina cribrosa parameters in normotensive glaucoma suspects. Comparison to glaucoma patients and healthy controls. PLoS ONE, 2021, 16, e0248851.	1.1	6
120	Deep learning approaches for segmenting Bruch's membrane opening from OCT volumes. OSA Continuum, 2020, 3, 3351.	1.8	6
121	Extrapolation of Central Corneal Topography Into the Periphery. Eye and Contact Lens, 2007, 33, 293-299.	0.8	5
122	On the computer intensive methods in model selection. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	5
123	Age-related changes of the corneal speckle by Optical Coherence Tomography. , 2015, 2015, 5659-62.		5
124	A Fully Automated 3D <i>In-Vivo</i> Delineation and Shape Parameterization of the Human Lamina Cribrosa in Optical Coherence Tomography. IEEE Transactions on Biomedical Engineering, 2019, 66, 1422-1428.	2.5	5
125	A subjective refraction-based assessment of image quality metric. Photonics Letters of Poland, 2011, 3, .	0.2	5
126	Defocus vibrations in optical systems—considerations in reference to the human eye. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2019, 36, 464.	0.8	5

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127	Computer simulation of visual outcomes of wavefront-only corneal ablation. Journal of Cataract and Refractive Surgery, 2006, 32, 487-494.	0.7	4
128	The "Hook and Loop" Resampling Plane. , 2007, , .		4
129	Improving the performance of model-order selection criteria by partial-model selection search. , 2010, , .		4
130	Computational aspects of the through-focus characteristics of the human eye. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2014, 31, 1408.	0.8	4
131	Simplifying numerical ray tracing for two-dimensional non circularly symmetric models of the human eye. Applied Optics, 2015, 54, 10123.	2.1	4
132	Computation of 2D Fourier transforms and diffraction integrals using Gaussian radial basis functions. Applied and Computational Harmonic Analysis, 2017, 43, 424-448.	1.1	4
133	Qualitative assessment of tear dynamics with fluorescein profilometry. Contact Lens and Anterior Eye, 2017, 40, 208-212.	0.8	4
134	Relationship between the rate of change in lamina cribrosa depth and the rate of retinal nerve fiber layer thinning following glaucoma surgery. PLoS ONE, 2018, 13, e0206040.	1.1	4
135	A New Approach to the Phase-Based Video Motion Magnification for Measuring Microdisplacements. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 354-361.	2.4	4
136	Wavelet Representation of the Corneal Pulse for Detecting Ocular Dicrotism. PLoS ONE, 2015, 10, e0124721.	1.1	4
137	Indirectly assessing changes in corneal properties with OCT speckle after crosslinking in porcine eyes. Experimental Eye Research, 2022, 219, 109051.	1.2	4
138	Formulation and comparison of two detectors of independent timing jitter in a complex harmonic. IEEE Transactions on Signal Processing, 2003, 51, 3043-3052.	3.2	3
139	Computationally efficient interference detection in videokeratoscopy images. , 2008, , .		3
140	Signal Processing in Visual Optics [Life Sciences]. IEEE Signal Processing Magazine, 2014, 31, 155-158.	4.6	3
141	New Approaches to Fractal Dimension Estimation With Application to Gray-Scale Images. IEEE Access, 2020, 8, 1383-1393.	2.6	3
142	The applicability of biased estimation in model and model order selection. , 2009, , .		2
143	The EDU-Index: A Way to Objectively Quantify an Individual?s University Teaching Output [Reflections]. IEEE Signal Processing Magazine, 2013, 30, 152-150.	4.6	2
144	Assessing subjectâ€related variations of the Ocular Response Analyzer parameter calculation. Australasian journal of optometry, The, 2015, 98, 348-352.	0.6	2

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145	Fully automated detection of lamina cribrosa in optical coherence tomography: Framework and illustrative examples. , 2017, 2017, 608-611.		2
146	Tear Film Surface Quality in Modern Daily Disposable Contact Lens Wear. Eye and Contact Lens, 2021, 47, 631-637.	0.8	2
147	Unified approach to tear film surface analysis with high-speed videokeratoscopy. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2019, 36, B15.	0.8	2
148	Molecular-Level Organization of the Tear Film Lipid Layer: A Molecular Dynamics Simulation Study. Biophysical Journal, 2014, 106, 710a.	0.2	1
149	A Novel Phase-Based Approach to Tear Film Surface Quality Assessment Using Lateral Shearing Interferometry. Lecture Notes in Computer Science, 2015, , 435-447.	1.0	1
150	Corneal deformation dynamics in normal and glaucoma patients utilizing scheimpflug imaging. , 2015, 2015, 6261-4.		0
151	Lysozyme in the Tear Film Lipid Layer. Biophysical Journal, 2016, 110, 581a.	0.2	0
152	Author's Reply. Ophthalmic and Physiological Optics, 2017, 37, 625-626.	1.0	0
153	Reducing the Number of MEG/EEG Trials Needed for the Estimation of Brain Evoked Responses: AÂBootstrap Approach. IEEE Transactions on Biomedical Engineering, 2021, 68, 2301-2312.	2.5	0
154	Evaluating the Clinical Utility of Noninvasive Methods for Measuring Tear Film Surface Quality. Photonics Letters of Poland, 2011, 3, .	0.2	0
155	The Need for Changes in the Management Processes of a Young Researcher's Career – Case Study. Advances in Intelligent Systems and Computing, 2020, , 97-110.	0.5	Ο