Edward S Sazonov

List of Publications by Year
in descending order

169 papers	4,252 citations	117453 34 h-index	149479 56 g-index
170 all docs	170 docs citations	170 times ranked	3674 citing authors

#	Article	IF	Citations
1	Monitoring of Posture Allocations and Activities by a Shoe-Based Wearable Sensor. IEEE Transactions on Biomedical Engineering, 2011, 58, 983-990.	2.5	199
2	Self-Powered Sensors for Monitoring of Highway Bridges. IEEE Sensors Journal, 2009, 9, 1422-1429.	2.4	195
3	Automatic Ingestion Monitor: A Novel Wearable Device for Monitoring of Ingestive Behavior. IEEE Transactions on Biomedical Engineering, 2014, 61, 1772-1779.	2.5	166
4	Optimal spatial sampling interval for damage detection by curvature or strain energy mode shapes. Journal of Sound and Vibration, 2005, 285, 783-801.	2.1	141
5	Non-invasive monitoring of chewing and swallowing for objective quantification of ingestive behavior. Physiological Measurement, 2008, 29, 525-541.	1.2	141
6	A Sensor System for Automatic Detection of Food Intake Through Non-Invasive Monitoring of Chewing. IEEE Sensors Journal, 2012, 12, 1340-1348.	2.4	138
7	Automatic Detection of Swallowing Events by Acoustical Means for Applications of Monitoring of Ingestive Behavior. IEEE Transactions on Biomedical Engineering, 2010, 57, 626-633.	2.5	135
8	Automatic Detection of Temporal Gait Parameters in Poststroke Individuals. IEEE Transactions on Information Technology in Biomedicine, 2011, 15, 594-601.	3.6	120
9	A Comparison of Energy Expenditure Estimation of Several Physical Activity Monitors. Medicine and Science in Sports and Exercise, 2013, 45, 2105-2112.	0.2	106
10	A Novel Wearable Device for Food Intake and Physical Activity Recognition. Sensors, 2016, 16, 1067.	2.1	99
11	A Comparative Review of Footwear-Based Wearable Systems. Electronics (Switzerland), 2016, 5, 48.	1.8	82
12	Automatic Recognition of Activities of Daily Living Utilizing Insole-Based and Wrist-Worn Wearable Sensors. IEEE Journal of Biomedical and Health Informatics, 2018, 22, 979-988.	3.9	79
13	A novel approach for food intake detection using electroglottography. Physiological Measurement, 2014, 35, 739-751.	1.2	77
14	Dietary Intake and Physical Activity Assessment: Current Tools, Techniques, and Technologies for Use in Adult Populations. American Journal of Preventive Medicine, 2018, 55, e93-e104.	1.6	72
15	A novel damage index for damage identification using guided waves with application in laminated composites. Smart Materials and Structures, 2014, 23, 095015.	1.8	69
16	Using Sensors to Measure Activity in People with Stroke. Topics in Stroke Rehabilitation, 2011, 18, 746-757.	1.0	66
17	Toward Objective Monitoring of Ingestive Behavior in Free‑living Population. Obesity, 2009, 17, 1971-1975.	1.5	60
18	Activity-based sleep–wake identification in infants. Physiological Measurement, 2004, 25, 1291-1304.	1.2	58

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19	Energy intake estimation from counts of chews and swallows. Appetite, 2015, 85, 14-21.	1.8	57
20	Sleep Versus Wake Classification From Heart Rate Variability Using Computational Intelligence: Consideration of Rejection in Classification Models. IEEE Transactions on Biomedical Engineering, 2008, 55, 108-118.	2.5	56
21	Automatic food intake detection based on swallowing sounds. Biomedical Signal Processing and Control, 2012, 7, 649-656.	3.5	56
22	Highly Accurate Recognition of Human Postures and Activities Through Classification With Rejection. IEEE Journal of Biomedical and Health Informatics, 2014, 18, 309-315.	3.9	55
23	Accelerometer-Based Detection of Food Intake in Free-Living Individuals. IEEE Sensors Journal, 2018, 18, 3752-3758.	2.4	52
24	Wireless intelligent sensor network for autonomous structural health monitoring. , 2004, 5384, 305.		51
25	Wireless Intelligent Sensor and Actuator Network - A Scalable Platform for Time-synchronous Applications of Structural Health Monitoring. Structural Health Monitoring, 2010, 9, 465-476.	4.3	48
26	"Automatic Ingestion Monitor Version 2â€•â€" A Novel Wearable Device for Automatic Food Intake Detection and Passive Capture of Food Images. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 568-576.	3.9	48
27	A Wearable Sensor System for Monitoring Cigarette Smoking. Journal of Studies on Alcohol and Drugs, 2013, 74, 956-964.	0.6	46
28	Automatic Measurement of Chew Count and Chewing Rate during Food Intake. Electronics (Switzerland), 2016, 5, 62.	1.8	45
29	Accurate Prediction of Energy Expenditure Using a Shoe-Based Activity Monitor. Medicine and Science in Sports and Exercise, 2011, 43, 1312-1321.	0.2	44
30	Wearable shoe-based device for rehabilitation of stroke patients. , 2010, 2010, 3772-5.		42
31	SmartStep: A Fully Integrated, Low-Power Insole Monitor. Electronics (Switzerland), 2014, 3, 381-397.	1.8	41
32	Posture and Activity Recognition and Energy Expenditure Estimation in a Wearable Platform. IEEE Journal of Biomedical and Health Informatics, 2015, 19, 1339-1346.	3.9	41
33	The Pediatric SmartShoe: Wearable Sensor System for Ambulatory Monitoring of Physical Activity and Gait. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 477-486.	2.7	40
34	Identifying Activity Levels and Steps of People With Stroke Using a Novel Shoe-Based Sensor. Journal of Neurologic Physical Therapy, 2012, 36, 100-107.	0.7	39
35	Segmentation and Characterization of Chewing Bouts by Monitoring Temporalis Muscle Using Smart Glasses With Piezoelectric Sensor. IEEE Journal of Biomedical and Health Informatics, 2017, 21, 1495-1503.	3.9	38
36	Validation of Sensor-Based Food Intake Detection by Multicamera Video Observation in an Unconstrained Environment. Nutrients, 2019, 11, 609.	1.7	37

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37	Automatic Recognition of postures and activities in stroke patients. , 2009, 2009, 2200-3.		36
38	Meal Microstructure Characterization from Sensor-Based Food Intake Detection. Frontiers in Nutrition, 2017, 4, 31.	1.6	36
39	Wearable Sensors for Monitoring of Cigarette Smoking in Free-Living: A Systematic Review. Sensors, 2019, 19, 4678.	2.1	34
40	A CNN-LSTM neural network for recognition of puffing in smoking episodes using wearable sensors. Biomedical Engineering Letters, 2020, 10, 195-203.	2.1	34
41	Public and health professionals' misconceptions about the dynamics of body weight gain/loss. System Dynamics Review, 2014, 30, 58-74.	1.1	32
42	Development of a Multisensory Wearable System for Monitoring Cigarette Smoking Behavior in Free-Living Conditions. Electronics (Switzerland), 2017, 6, 104.	1.8	32
43	Cigarette Smoking Detection with An Inertial Sensor and A Smart Lighter. Sensors, 2019, 19, 570.	2.1	30
44	Detection of chewing from piezoelectric film sensor signals using ensemble classifiers. , 2016, 2016, 4929-4932.		26
45	Prediction of Bodyweight and Energy Expenditure Using Point Pressure and Foot Acceleration Measurements. Open Biomedical Engineering Journal, 2011, 5, 110-115.	0.7	26
46	Detection of Food Intake from Swallowing Sequences by Supervised and Unsupervised Methods. Annals of Biomedical Engineering, 2010, 38, 2766-2774.	1.3	25
47	Development of SmartStep: An insole-based physical activity monitor. , 2013, 2013, 7209-12.		24
48	Estimation of feature importance for food intake detection based on Random Forests classification. , 2013, 2013, 6756-9.		24
49	Monitoring of Cigarette Smoking Using Wearable Sensors and Support Vector Machines. IEEE Transactions on Biomedical Engineering, 2013, 60, 1867-1872.	2.5	24
50	Measurement of fidgeting in patients with anorexia nervosa using a novel shoe-based monitor. Eating Behaviors, 2017, 24, 45-48.	1.1	24
51	A Systematic Review of Technology-Driven Methodologies for Estimation of Energy Intake. IEEE Access, 2019, 7, 49653-49668.	2.6	24
52	Detection of Hand-to-Mouth Gestures Using a RF Operated Proximity Sensor for Monitoring Cigarette Smoking. Open Biomedical Engineering Journal, 2013, 7, 41-49.	0.7	24
53	Identification of cigarette smoke inhalations from wearable sensor data using a Support Vector Machine classifier. , 2012, 2012, 4050-3.		23
54	Automatic Count of Bites and Chews From Videos of Eating Episodes. IEEE Access, 2020, 8, 101934-101945.	2.6	21

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55	The Energetics of Obesity: A Review: Monitoring Energy Intake and Energy Expenditure in Humans. IEEE Engineering in Medicine and Biology Magazine, 2010, 29, 31-35.	1.1	20
56	Detection of periods of food intake using Support Vector Machines. , 2010, 2010, 1004-7.		20
57	RF hand gesture sensor for monitoring of cigarette smoking. , 2011, , .		20
58	Analogue-to-digital and digital-to-analogue conversion with memristive devices. Electronics Letters, 2012, 48, 73.	0.5	20
59	Smoking detection based on regularity analysis of hand to mouth gestures. Biomedical Signal Processing and Control, 2019, 51, 106-112.	3.5	20
60	Comparison of Wearable Sensors for Estimation of Chewing Strength. IEEE Sensors Journal, 2020, 20, 5379-5388.	2.4	20
61	Fuzzy logic expert system for automated damage detection from changes in strain energy mode shapes. Nondestructive Testing and Evaluation, 2002, 18, 1-20.	1.1	19
62	Reservation-based protocol for monitoring applications using IEEE 802.15.4 sensor networks. International Journal of Sensor Networks, 2008, 4, 155.	0.2	19
63	Comparative testing of piezoelectric and printed strain sensors in characterization of chewing. , 2015, 2015, 7538-41.		19
64	Monitoring of Infant Feeding Behavior Using a Jaw Motion Sensor. Journal of Healthcare Engineering, 2015, 6, 23-40.	1.1	19
65	Feature Extraction Using Deep Learning for Food Type Recognition. Lecture Notes in Computer Science, 2017, , 464-472.	1.0	19
66	A robust classification scheme for detection of food intake through non-invasive monitoring of chewing. , 2012, 2012, 4891-4.		18
67	Using decision trees to measure activities in people with stroke. , 2013, 2013, 6337-40.		18
68	SmartStep 2.0 - A completely wireless, versatile insole monitoring system. , 2015, , .		17
69	Reduction of energy intake using justâ€inâ€time feedback from a wearable sensor system. Obesity, 2017, 25, 676-681.	1.5	17
70	Limited receptive area neural classifier for texture recognition of mechanically treated metal surfaces. Neurocomputing, 2008, 71, 1413-1421.	3.5	16
71	Automatic identification of the number of food items in a meal using clustering techniques based on the monitoring of swallowing and chewing. Biomedical Signal Processing and Control, 2012, 7, 474-480.	3.5	16
72	A Comparative Study of Food Intake Detection Using Artificial Neural Network and Support Vector Machine. , 2013, , .		16

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73	Android TWEETY â€" A wireless activity monitoring and biofeedback system designed for people with Anorexia Nervosa. , 2014, , .		16
74	Development and Validation of an Objective, Passive Dietary Assessment Method for Estimating Food and Nutrient Intake in Households in Low- and Middle-Income Countries: A Study Protocol. Current Developments in Nutrition, 2020, 4, nzaa020.	0.1	15
75	Evaluation of Chewing and Swallowing Sensors for Monitoring Ingestive Behavior. Sensor Letters, 2013, 11, 560-565.	0.4	15
76	Detection of Oil-Containing Dressing on Salad Leaves Using Multispectral Imaging. IEEE Access, 2020, 8, 86196-86206.	2.6	14
77	Development of a real time activity monitoring Android application utilizing SmartStep. , 2016, 2016, 1886-1889.		13
78	A Lightweight Exoskeleton-Based Portable Gait Data Collection System. Sensors, 2021, 21, 781.	2.1	13
79	Non-baseline detection of small damages from changes in strain energy mode shapes. Nondestructive Testing and Evaluation, 2002, 18, 91-107.	1.1	12
80	Automatic breathing segmentation from wearable respiration sensors. , 2011, , .		12
81	Early Detection of the Initiation of Sit-to-Stand Posture Transitions Using Orthosis-Mounted Sensors. Sensors, 2017, 17, 2712.	2.1	12
82	The importance of field experiments in testing of sensors for dietary assessment and eating behavior monitoring. , 2018, 2018, 5759-5762.		12
83	Statistical models for meal-level estimation of mass and energy intake using features derived from video observation and a chewing sensor. Scientific Reports, 2019, 9, 45.	1.6	12
84	Algorithm for haplotype resolution and block partitioning for partial XOR-genotype data. Journal of Biomedical Informatics, 2010, 43, 51-59.	2.5	11
85	Development of the RT-GAIT, a Real-Time feedback device to improve Gait of individuals with stroke. , 2015, 2015, 5724-7.		11
86	Using respiratory signals for the recognition of human activities. , 2016, 2016, 173-176.		11
87	Real time monitoring and recognition of eating and physical activity with a wearable device connected to the eyeglass. , 2017, , .		11
88	Objective Detection of Cigarette Smoking from Physiological Sensor Signals. , 2019, 2019, 3563-3566.		11
89	Wearable Egocentric Camera as a Monitoring Tool of Free-Living Cigarette Smoking: A Feasibility Study. Nicotine and Tobacco Research, 2020, 22, 1883-1890.	1.4	11
90	Limited receptive area neural classifier for recognition of swallowing sounds using continuous wavelet transform. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 3128-31.	0.5	10

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91	Swallowing detection by sonic and subsonic frequencies: A comparison. , 2011, 2011, 6890-3.		10
92	Classification of posture and activities by using decision trees. , 2012, 2012, 4353-6.		10
93	Detection and Characterization of Food Intake by Wearable Sensors. , 2014, , 591-616.		10
94	A method for early detection of the initiation of sit-to-stand posture transitions. Physiological Measurement, 2016, 37, 515-529.	1.2	10
95	A Systematic Review of Sensor-Based Methodologies for Food Portion Size Estimation. IEEE Sensors Journal, 2021, 21, 12882-12899.	2.4	10
96	Limited receptive area neural classifier for recognition of swallowing sounds using short-time Fourier transform. Neural Networks (IJCNN), International Joint Conference on, 2007, , .	0.0	9
97	Detection of cigarette smoke inhalations from respiratory signals using reduced feature set. , 2013, 2013, 6031-4.		9
98	A wireless sensor system for quantification of infant feeding behavior. , 2015, , .		9
99	Estimating Berg Balance Scale and Mini Balance Evaluation System Test Scores by Using Wearable Shoe Sensors. , 2019, , .		9
100	Empirical Study on Human Movement Classification Using Insole Footwear Sensor System and Machine Learning. Sensors, 2022, 22, 2743.	2.1	9
101	Damage detection and identification in smart structures using SVM and ANN. Proceedings of SPIE, 2012, , .	0.8	8
102	Reproducibility of Dietary Intake Measurement From Diet Diaries, Photographic Food Records, and a Novel Sensor Method. Frontiers in Nutrition, 2020, 7, 99.	1.6	8
103	A Novel Approach to Dining Bowl Reconstruction for Image-Based Food Volume Estimation. Sensors, 2022, 22, 1493.	2.1	8
104	Wireless intelligent sensor and actuator network (WISAN): a scalable ultra-low-power platform for structural health monitoring. , 2006, , .		7
105	Design of a instrumentation module for monitoring ingestive behavior in laboratory studies. , 2011, 2011, 1884-7.		7
106	Posture and activity recognition and energy expenditure prediction in a wearable platform. , 2014, 2014, 4163-7.		7
107	Linear regression models for chew count estimation from piezoelectric sensor signals. , 2016, , .		7
108	A Comparison of SVM and CNN-LSTM Based Approach for Detecting Smoke Inhalations from Respiratory signal. , 2019, 2019, 3262-3265.		7

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109	Sensors and Embedded Systems in Agriculture and Food Analysis. Journal of Sensors, 2019, 2019, 1-2.	0.6	7
110	Computation of Cigarette Smoke Exposure Metrics From Breathing. IEEE Transactions on Biomedical Engineering, 2020, 67, 2309-2316.	2.5	7
111	Ankle Angle Prediction Using a Footwear Pressure Sensor and a Machine Learning Technique. Sensors, 2021, 21, 3790.	2.1	7
112	Perspective: Opportunities and Challenges of Technology Tools in Dietary and Activity Assessment: Bridging Stakeholder Viewpoints. Advances in Nutrition, 2022, 13, 1-15.	2.9	7
113	FOODCAM: A Novel Structured Light-Stereo Imaging System for Food Portion Size Estimation. Sensors, 2022, 22, 3300.	2.1	7
114	Hybrid evolutionary algorithm for microscrew thread parameter estimation. Engineering Applications of Artificial Intelligence, 2010, 23, 446-452.	4.3	6
115	Impact of out-of-focus blur on iris recognition. , 2011, , .		6
116	Understanding smoking behavior using wearable sensors: Relative importance of various sensor modalities. , 2014, 2014, 6899-902.		6
117	Detection of cigarette smoke inhalations from respiratory signals using decision tree ensembles. , 2015, , .		6
118	Analysis of a coverstitched stretch sensor for monitoring of breathing. , 2016, , .		6
119	Recognizing cigarette smoke inhalations using hidden Markov models. , 2017, 2017, 1242-1245.		6
120	Processing of Egocentric Camera Images from a Wearable Food Intake Sensor. , 2019, , .		6
121	Implementing Real-Time Food Intake Detection in a Wearable System Using Accelerometer. , 2021, , .		6
122	Grand Challenges in Wearable Electronics. Frontiers in Electronics, 2021, 2, .	2.0	6
123	Recognition of household and athletic activities using smartshoe. , 2012, 2012, 6382-5.		5
124	Measuring gait symmetry in children with cerebral palsy using the SmartShoe. , 2014, , .		5
125	Sensors and systems for obesity care and research. , 2014, 2014, 3188-91.		5
126	The design and evaluation of an activity monitoring user interface for people with stroke. , 2014, 2014, 5908-11.		5

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127	Food/Non-Food Classification of Real-Life Egocentric Images in Low- and Middle-Income Countries Based on Image Tagging Features. Frontiers in Artificial Intelligence, 2021, 4, 644712.	2.0	5
128	Characterizing walking activity in people with stroke. , 2011, 2011, 5211-4.		4
129	Validation of two novel monitoring devices to measure physical activity in healthy women. , 2014, 2014, 1727-30.		4
130	Clustering of Food Intake Images into Food and Non-food Categories. Lecture Notes in Computer Science, 2017, , 454-463.	1.0	4
131	Evaluation of RIP sensor calibration stability for daily estimation of lung volume. , 2017, , .		4
132	One size fits all electronics for insole-based activity monitoring. , 2017, 2017, 3564-3567.		4
133	Motion-Adaptive Image Capture in a Body-Worn Wearable Sensor. , 2018, , .		4
134	Development of a Smart IoT Charger for Wearable Cigarette Smoking Monitor. , 2019, , .		4
135	Selective Content Removal for Egocentric Wearable Camera in Nutritional Studies. IEEE Access, 2020, 8, 198615-198623.	2.6	4
136	Detection and characterization of food intake by wearable sensors. , 2021, , 541-574.		4
137	Experimental evaluation of instantaneous phase-based index for structural health monitoring. , 2006, , .		3
138	Automatic recognition of postural allocations. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 4993-6.	0.5	3
139	Development of wheelchair cushion pressure monitoring system. , 2014, , .		3
140	Measuring Human Energy Intake and Ingestive Behavior: Challenges and Opportunities [From the Technical Committees]. IEEE Pulse, 2016, 7, 6-7.	0.1	3
141	Guest Editorial Nutrition Informatics: From Food Monitoring to Dietary Management. IEEE Journal of Biomedical and Health Informatics, 2017, 21, 585-587.	3.9	3
142	Design and Preliminary Testing of an Instrumented Exoskeleton for Walking Gait Measurement. , 2019, , .		3
143	PACT CAM: Wearable Sensor System to Capture the Details of Cigarette Smoking in Free-Living. , 2020, , .		3
144	Food Detection and Segmentation from Egocentric Camera Images. , 2021, 2021, 2736-2740.		3

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145	Detection of Food Intake Sensorâ€™s Wear Compliance in Free-Living. IEEE Sensors Journal, 2021, 21, 27728-27735.	2.4	3
146	Reply to â€˜Comment on â€œNon-invasive monitoring of chewing and swallowing for objective quantification of ingestive behaviorâ€â€™. Physiological Measurement, 2009, 30, L5-L7.	1.2	2
147	Highly accurate classification of postures and activities by a shoe-based monitor through classification with rejection. , 2012, 2012, 2611-4.		2
148	Comparative sensor analysis for an electronic wearable and non-invasive respiratory signal acquisition system. , 2012, , .		2
149	Sensor sensitivity to posture transitions in a lower-extremity orthotic device. , 2015, , .		2
150	Design and Testing of an Instrumented Infant Feeding Bottle. , 2018, , .		2
151	Methodology for Objective, Passive, Image- and Sensor-based Assessment of Dietary Intake, Meal-timing, and Food-related Activity in Ghana and Kenya (P13-028-19). Current Developments in Nutrition, 2019, 3, nzz036.P13-028-19.	0.1	2
152	Bandwidth Optimization in 802.15.4 Networks through Evolutionary Slot Assignment. International Journal of Communications, Network and System Sciences, 2009, 02, 518-527.	0.4	2
153	Quantitative assessment of nutritive sucking patterns in preterm infants. Early Human Development, 2020, 146, 105044.	0.8	2
154	Improvement of Methodology for Manual Energy Intake Estimation From Passive Capture Devices. Frontiers in Nutrition, 0, 9, .	1.6	2
155	Environmental testing of wireless sensor system for structural health monitoring of civil infrastructure. , 2006, , .		1
156	Clustering (Xu, R. and Wunsch, D.C.; 2008) [Book review. IEEE Pulse, 2010, 1, 74-76.	0.1	1
157	Early detection of sit-to-stand transitions in a lower limb orthosis. , 2015, 2015, 5028-31.		1
158	Clustering technical documents by stylistic features for authorship analysis. , 2015, , .		1
159	Loosely Coupled Wireless Charging of Footwear-based Sensor System. , 2019, , .		1
160	A Case Study of Household Food-Related Assessment Using an Innovative Passive Dietary Assessment Device in Mampong-Akuapem, Ghana (FS17-03-19). Current Developments in Nutrition, 2019, 3, nzz035.FS17-03-19.	0.1	1
161	Electromyogram in Cigarette Smoking Activity Recognition. Signals, 2021, 2, 87-97.	1.2	1
162	Passive Sensors for Detection of Food Intake. , 2023, , 218-234.		1

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163	Feasibility of the automatic ingestion monitor (AIM-2) for infant feeding assessment: a pilot study among breast-feeding mothers from Ghana. Public Health Nutrition, 2022, 25, 2897-2907.	1.1	1
164	Development of Cloud-based Infrastructure for Real Time Analysis of Wearable Sensor Signal. , 2022, , .		1
165	Electronic and Electromechanical Tester of physiological sensors. , 2012, , .		0
166	Quantitative Assessment of Nutritive Sucking Patterns in Preterm Infants (P11-095-19). Current Developments in Nutrition, 2019, 3, nzz048.P11-095-19.	0.1	0
167	Sensor System for Open/Closed Eye Detection in Infants During Feeding. , 2019, , .		0
168	Cigarette Smoke Exposure Computation using Bioimpedance Sensor. , 2020, , .		0
169	Electronic and Electromechanical Tester of Physiological Sensors. Smart Sensors, Measurement and Instrumentation, 2014, , 243-261.	0.4	0