2020-6-22

MSS References

(Olfactory system, Electronic nose, Odor sensing)

The list of references below is not exhaustive. If your paper is missing, you are cordially invited to send it to us at **info@nanosensors.com.**

2020:

- Kosuke Minami, Genki Yoshikawa. Finite Element Analysis of Interface Dependence on Nanomechanical Sensing. Sensors 20(5):1518 10.3390/s20051518
- Taro Yakabe, Gaku Imamura, Genki Yoshikawa, Masahiro Kitajima, Akiko N Itakura. Hydrogen detection using membrane-type surface stress sensor. Journal of Physics Communications. 4 [2] (2020) 025005 10.1088/2399-6528/ab7319
- Izabela Osica, Antonio F. A. A. Melo, Filipe C. D. A. Lima, Kota Shiba, Gaku Imamura, Frank N. Crespilho, Jan Betlej, Krzysztof J. Kurzydowski, Genki Yoshikawa, Katsuhiko Ariga. Nanomechanical Recognition and Discrimination of Volatile Molecules by Au Nanocages Deposited on Membrane-Type Surface Stress Sensors. ACS Applied Nano Materials. 3 [5] (2020) 4061-4068 10.1021/acsanm.0c00115

2019:

- Kosuke Minami, Gaku Imamura, Takahiro Nemoto, Kota Shiba, Genki Yoshikawa. Pattern recognition of solid materials by multiple probe gases. Materials Horizons. 6 [3] (2019) 580-586 10.1039/c8mh01169a
- Gaku Imamura, Kota Shiba, Genki Yoshikawa, Takashi Washio. Free-hand gas identification based on transfer function ratios without gas flow control. Scientific Reports. (2019) 9768-1-9768-14 10.1038/s41598-019-46164-1

2018:

- Huynh Ngo, Kosuke Minami, Gaku Imamura, Kota Shiba, Genki Yoshikawa. Effects of Center Metals in Porphines on Nanomechanical Gas Sensing. Sensors. 18 [5] (2018) 1640 10.3390/s18051640
- (Article in Japanese) 南 皓輔，柴 弘太，今村 岳，吉川 元起．ナノメカニカルセンサ（MSS/AMA）によるニオイ／質量分析．質量分析. 66 [1] (2018) 25-29 10.5702/massspec.s18-8
- (Article in Japanese) 吉川 元起．膜型表面応力センサ「MSS」. Journal of Japan Association on Odor Environment. [5] (2018) 291-296
- (Article in Japanese) 八重樫 章，吉川 元起，横田 豊実，青木 芳夫．嗅覚 IoT センサ・システムの業界標準化に向けた産学官連携活動. Journal of Japan Association on Odor Environment. [5] (2018) 323-327

- (Article in Japanese) 南 皓輔, **柴 弘太**, 今村 岳, ンゴ ティエン フイン, 吉川 元起. MSS の感応膜材料開発とアプリケーション事例. Journal of Japan Association on Odor Environment. [5] (2018) 297-304
- Kosuke Minami, Kota Shiba, Genki Yoshikawa. Discrimination of structurally similar odorous molecules with various concentrations by using a nanomechanical sensor. Analytical Methods. 10 [30] (2018) 3720-3726 10.1039/c8ay01224e
- (Article in Japanese) 今村 岳, 吉川 元起, 鷲尾隆. においデータの解析方法と新たな展開—ポンプレス嗅覚センサに向けて. におい・かおり環境学会誌. [5] (2018) 315-322
- Joshua A. Jackman, Nam-Joon Cho, Michihiro Nishikawa, Genki Yoshikawa, Taizo Mori, Lok Kumar Shrestha, Katsuhiko Ariga. Materials Nanoarchitectonics for Mechanical Tools in Chemical and Biological Sensing. Chemistry - An Asian Journal. 13 [22] (2018) 3366-3377 10.1002/asia.201800935
- Kota Shiba, Ryo Tamura, Takako Sugiyama, Yuko Kameyama, Keiko Koda, Eri Sakon, Kosuke Minami, Huynh Thien Ngo, Gaku Imamura, Koji Tsuda, Genki Yoshikawa. Functional Nanoparticles-Coated Nanomechanical Sensor Arrays for Machine Learning-Based Quantitative Odor Analysis. ACS Sensors. 3 [8] (2018) 1592-1600 10.1021/acssensors.8b00450
- Gaku Imamura, Kota Shiba, Genki Yoshikawa, Takashi Washio. Analysis of nanomechanical sensing signals; physical parameter estimation for gas identification. AIP Advances. 8 [7] (2018) 075007 10.1063/1.5036686
- (Article in Japanese) 柴 弘太, 田村 亮. ニオイのデータ駆動型解析 – MSS、機能性ナノ粒子、機械学習による定量予測 –. におい・かおり環境学会誌. [5] (2018) 305-314
- Takuya Kataoka, **Kota Shiba**, Motohiro Tagaya. An investigation into nanohybrid states of europium (III) complex with hydroxyapatite nanocrystals. Optical Materials. 84 (2018) 252-258 10.1016/j.optmat.2018.07.014

2017:

- (Article in Japanese) IMAMURA, Gaku, SHIBA, Kota, YOSHIKAWA, Genki. 嗅覚センサ実現に向けた総合的研究開発. おいしさの科学とビジネス展開の最前線. (2017) 160-168
- (Article in Japanese) IMAMURA, Gaku, SHIBA, Kota, YOSHIKAWA, Genki. 超小型・高感度センサ素子 MSS を用いた嗅覚センサシステムの総合的研究開発. 生体ガス計測と高感度ガスセンシング. (2017) 143-152
- (Article in Japanese) SHIBA, Kota, TAMURA, Ryo, IMAMURA, Gaku, YOSHIKAWA, Genki. ニオイって実は超複雑で超有用 ～ニオイに秘められた情報に迫る新たなアプローチ～. Academist Journal. web (2017) 1-8
- (Article in Japanese) SHIBA, Kota, YOSHIKAWA, Genki. 流体熱力学質量分析法の開発. JIR 常陽産研 NEWS. 323 [9 月号] (2017) 14(1/7)-17(7/7)
- K. Shiba, T. Takei, G. Yoshikawa, M. Ogawa. Deposition of a titania layer on spherical porous silica particles and their nanostructure-induced vapor sensing properties. Nanoscale. 9 [43] (2017) 16791-16799 10.1039/c7nr06086f
- K. Shiba, R. Tamura, G. Imamura, and G. Yoshikawa, “Data-driven nanomechanical sensing: specific information extraction from a complex system”, Scientific Reports 7, Article number: 3661 (2017) DOI: 10.1038/s41598-017-03875-7
- (Article in Japanese) 今村 岳,柴 弘太, 吉川 元起,「人工嗅覚実現に向けた総合的研究開発」Oyo Buturi vol. 86 No. 2 (2017), p. 127 ISSN 0369-8009

- I. Osica, G. Imamura, K. Shiba, Q. Ji , L. Kumar Shrestha, J. P. Hill, K. J. Kurzydłowski, G. Yoshikawa, and K. Ariga, “Highly Networked Capsular Silica–Porphyrin Hybrid Nanostructures as Efficient Materials for Acetone Vapor Sensing”, ACS Appl. Mater. Interfaces, 2017, 9 (11), pp 9945–9954 DOI: 10.1021/acsami.6b15680
- I. Osica, A.F.A.A. Melo, G. Imamura, K. Shiba, Q. Ji, J. P. Hill, F. Crespilho, K.J. Kurzydłowski, G. Yoshikawa, K. Ariga, “Fabrication of Silica-Protein Hierarchical Nanoarchitecture with Gas-Phase Sensing Activity”, J. of Nanosci. and Nanotec., Vol.17, No.8 (2017) pp. 5908-5917 DOI: 10.1166/jnn.2017.14388

2016:

- H. P. Lang, F. Loizeau, A. Hiou, J.-P. Rivals, P. Romero, T. Akiyama, Ch. Gerber and E. Meyer, “Piezoresistive Membrane Surface Stress Sensors for Characterization of Breath Samples of Head & Neck Cancer Patients”, Sensors (Basel) 2016 Jul; 16(7): 1149. DOI: 10.3390/s16071149
- G. Imamura, K. Shiba, G. Yoshikawa, “Finite Element Analysis on Nanomechanical Sensing of Cellular Forces”, Analytical Sciences 32 11 1189 1194 DOI: 10.2116/analsci.32.1189
- G. Imamura, K. Shiba, G. Yoshikawa, “Smell identification of spices using nanomechanical membrane-type surface stress sensors”, Jap. J. of APPLIED PHYSICS. 55 [11] (2016) 1102B3-1 DOI: 10.7567/jjap.55.1102b3

2015:

- F. Huber, H.P. Lang, J. Zhang, D. Rimoldi, Ch. Gerber, “Nanosensors for cancer detection”, Swiss Med Wkly. 2015 Feb 9;145:w14092. DOI: 10.4414/smw.2015.14092.
- F. Loizeau, T. Akiyama, S. Gautsch, P. Vettiger, G. Yoshikawa, N. F. de Rooij, “Comparing membrane- and cantilever-based surface stress sensors for reproducibility”, SENSORS AND ACTUATORS A-PHYSICAL. 228 (2015) 9 DOI: 10.1016/j.sna.2015.02.039

2014:

- (Ph.D Thesis) F. Loizeau, Microfabricated Sensor Arrays for Life Science Applications, https://infoscience.epfl.ch/record/197077?ln=en, DOI: 10.5075/epfl-thesis-6100
- R. J. S. Guerrero, F. Nguyen, G. Yoshikawa, “Real-time gas identification on mobile platforms using a nanomechanical membrane-type surface stress sensor”, EPJ TECHNIQUES AND INSTRUMENTATION. 1 [1] (2014) 9(1) DOI: 10.1140/epjti/s40485-014-0009-z
- G. Yoshikawa, C. J. Y. Lee, K. Shiba, “Effects of Coating Materials on Two Dimensional Stress-Induced Deflection of Nanomechanical Sensors”, J. of NANOSCIENCE AND NANOTECHNOLOGY. 14 [4] (2014) 2908 DOI: 10.1166/jnn.2014.8604
- (in Japanese) G. Yoshikawa, “Nanomechanical Membrane-Type Surface Stress Sensor (MSS)”, J. of THE SURFACE SCIENCE SOCIETY OF JAPAN (表面科学). 35 [10] (2014) 571 DOI: 10.1380/jsssj.35.571

2013:

- G. Yoshikawa, F. Loizeau, C. J. Y. Lee, T. Akiyama, K. Shiba, S. Gautsch, T. Nakayama, P. Vettiger, N. F. de Rooij, M. Aono, “Double-side-coated nanomechanical membrane-type surface stress sensor (MSS) for one-chip-one-channel setup”, Langmuir. 29 [24] (2013) 7551 DOI: 10.1021/la3046719

2012:

- F.Loizeau, T. Akiyama, S. Gautsch, P. Vettiger, G. Yoshikawa, N. de Rooij, “Membrane-Type Surface Stress Sensor with Piezoresistive Readout”, Procedia Engineering 47 (2012) 1085 – 1088 DOI: 10.1016/j.proeng.2012.09.339
- G. Yoshikawa, T. Akiyama, F. Loizeau, K. Shiba, S. Gautsch, T. Nakayama, P. Vettiger, N. F. de Rooij, M. Aono, “Two dimensional array of piezoresistive nanomechanical Membrane-type Surface Stress Sensor (MSS) with improved sensitivity”, Sensors (Basel). 2012 Nov 16; 12(11):15873-87. DOI: 10.3390/s121115873

2011:

- G. Yoshikawa, T. Akiyama, S. Gautsch, P. Vettiger, and H. Rohrer, “Nanomechanical Membrane-type Surface Stress Sensor”, Nano Lett., 2011, 11 (3), pp 1044–1048 DOI: 10.1021/nl103901a