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Corrigendum: Recent progress in piezoelectric thin films as self-powered devices: material and application

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A Corrigendum on
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In the published article, there were following errors in the **References** and their citations.

In section **3.1 AlN piezoelectric films**, page 6:

The reference for [Wen et al., 2022] was incorrectly written as [Wen, D., Shen, Y., Sun, P., Huang, J., Gu, F., and Wang, L. (2022). Defect regulation of AlN films based on Al-rich AlN targets. Semicond. Sci. Technol. 37 (10), 105001. doi:10.1088/1361-6641/ac889a]. It should be [Patidar, J., Sharma, A., Zhuk, S., Lorenzin, G., Cancellieri, C., Sarott, M. F., et al. (2023). Improving the crystallinity and texture of oblique-angle-deposited AlN thin films using reactive synchronized HiPIMS. Surf. Coatings Technol. 468, 129719. doi:10.1016/j.surfcoat.2023.129719].

The reference for [Terai et al., 2023] was incorrectly written as [Terai, Y., Haraguchi, K., Ichinose, R., Oota, H., and Yonezawa, K. (2023). Structural and piezoelectric properties of AlN thin films grown by pressure gradient sputtering. Jpn. J. Appl. Phys. 62 (SA), SA1003. doi:10.35848/1347-4065/ac762f.]. It should be [Wen, D., Shen, Y., Sun, P., Huang, J., Gu, F., and Wang, L. (2022). Defect regulation of AlN films based on Al-rich AlN targets. Semicond. Sci. Technol. 37 (10), 105001. doi:10.1088/1361-6641/ac889a].

The reference for [Zha et al., 2023] was incorrectly written as [Zha X-H, Ma X, Luo J-T, Fu C. Enhanced piezoelectric response of AlN via alloying of transitional metals, and influence of type and distribution of transition metals. Nano Energy 2023, 111:108390. doi:10.1016/j.nanoen.2023.108390]. It should be [Feng G-H, Li C-Y, Chen Y-H, Ho Y-C, Chu S-Y, Tsai C-C, Hong C-S. Investigation of Mo Doping Effects on the Properties of AlN-Based Piezoelectric Films Using a Sputtering Technique. ECS Journal of Solid State Science and Technology 2022, 11(12):123005. doi:10.1149/2162-8777/aca796].

The reference for [Namikawa et al., 2023] was incorrectly written as [Namikawa G, Shojiki K, Yoshida R, Kusuda R, Uesugi K, Miyake H. MOVPE growth of AlN and AlGaN films on N-polar annealed and sputtered AlN templates. Journal of Crystal Growth 2023, 617:127256.

doi:10.1016/j.jcrysgro.2023127256]. It should be [A strategy for obtaining AlN heteroepitaxial films with high crystalline quality. Nat. Mater. 22, 816–817 (2023). 10.1038/s41563-023-01574-5].

In section, **3.2 PZT piezoelectric films**, page 6:

The reference for [A strategy for obtaining AlN, 2023] was incorrectly written as [A strategy for obtaining AlN heteroepitaxial films with high crystalline quality. Nat. Mater. 22, 816–817 (2023). 10.1038/s41563-023-01574-5]. It should be [Beklešovas B, Iljinas A, Stankus V, Čyvienė J, Andrulevičius M, Ivanov M, Banys J. Structural, Morphologic, and Ferroelectric Properties of PZT Films Deposited through Layer-by-Layer Reactive DC Magnetron Sputtering. Coatings.2022, 12(6):717. doi: 10.3390/coatings12060717].

The reference for [Beklešovas et al., 2022] was incorrectly written as [Beklešovas B, Iljinas A, Stankus V, Čyvienė J, Andrulevičius M, Ivanov M, Banys J. Structural, Morphologic, and Ferroelectric Properties of PZT Films Deposited through Layer-by-Layer Reactive DC Magnetron Sputtering. Coatings.2022, 12(6):717. doi:10.3390/coatings12060717]. It should be [Aratani M, Oikawa T, Ozeki T, Funakubo H. Epitaxial-grade polycrystalline Pb(Zr,Ti)O3 film deposited at low temperature by pulsed-metalorganic chemical vapor deposition. Applied Physics Letters 2001, 79(7):1000-1002. doi:10.1063/1.1391229].

The reference for [Aratani et al., 2001] was incorrectly written as [Aratani M, Oikawa T, Ozeki T, Funakubo H. Epitaxial-grade polycrystalline Pb(Zr,Ti)O3 film deposited at low temperature by pulsed-metalorganic chemical vapor deposition. Applied Physics Letters 2001, 79(7):1000-1002. doi:10.1063/1.1391229]. It should be [Bian K, Gu Q, Zhu K, Zhu R, Wang J, Liu J, Qiu J. Improved sintering activity and piezoelectric properties of PZT ceramics from hydrothermally synthesized powders with Pb excess. Journal of Materials Science: Materials in Electronics 2016, 27(8):8573-8579. doi:10.1007/s10854-016-4875-9].

The reference for [Bian et al., 2016] was incorrectly written as [Bian K, Gu Q, Zhu K, Zhu R, Wang J, Liu J, Qiu J. Improved sintering activity and piezoelectric properties of PZT ceramics from hydrothermally synthesized powders with Pb excess. Journal of Materials Science: Materials in Electronics 2016, 27(8):8573-8579. doi:10.1007/s10854-016-4875-9]. It should be [Gatabi JR, Rahman S, Amaro A, Nash T, Rojas-Ramirez J, Pandey RK, Droopad R. Tuning electrical properties of PZT film deposited by Pulsed Laser Deposition. Ceramics International 2017, 43(8):6008-6012. doi:10.1016/j.ceramint.2017.01.139].

The reference for [Gatabi et al., 2017] was incorrectly written as [Gatabi JR, Rahman S, Amaro A, Nash T, Rojas-Ramirez J, Pandey RK, Droopad R. Tuning electrical properties of PZT film deposited by Pulsed Laser Deposition. Ceramics International 2017, 43(8):6008-6012. doi:10.1016/j.ceramint.2017.01.139]. It should be [Lee Y-C, Tsai C-C, Liou Y-C, Hong C-S, Chu S-Y. Effects of Nb Doping on Crystalline Orientation, Microstructure and Electrical Properties of Non-Stoichiometric PZT Thick Films via Hybrid Sol-Gel Method. ECS Journal of Solid State Science and Technology 2021, 10(6):063010. doi:10.1149/2162-8777/ac0a40].

The reference for [Lee et al., 2021] was incorrectly written as [Lee Y-C, Tsai C-C, Liou Y-C, Hong C-S, Chu S-Y. Effects of Nb Doping on Crystalline Orientation, Microstructure and Electrical Properties of Non-Stoichiometric PZT Thick Films via Hybrid Sol-Gel Method. ECS Journal of Solid State Science and Technology 2021, 10(6):063010. doi:10.1149/2162-8777/ac0a40]. It should be [Di Marco MB, Imhoff L, Roldán MV, Barolin S, Stachiotti MG. Sol–gel synthesis and characterization of PZT thin films on FTO/aluminoborosilicate glass substrates. Journal of Materials Science: Materials in Electronics 2023, 34(14):1171. doi:10.1007/s10854-023-10596-3].

The reference for [Di Marco et al, 2023] was incorrectly written as [Di Marco MB, Imhoff L, Roldán MV, Barolin S, Stachiotti MG. Sol–gel synthesis and characterization of PZT thin films on FTO/aluminoborosilicate glass substrates. Journal of Materials Science: Materials in Electronics 2023, 34(14):1171. doi:10.1007/s10854-023-10596-3]. It should be [Liu L, Ouyang K, Chen Z, Mo S, Peng Q, Jiang L, Huang Z, Qu H, Yang Q, Jiang J. Robust ferroelectricity enhancement of PZT thin films by a homogeneous seed layer. Journal of Materials Science 2022, 57(41):19371-19380. doi:10.1007/s10853-022-07835-z].

The reference for [Liu et al, 2022c] was incorrectly written as [Liu L, Ouyang K, Chen Z, Mo S, Peng Q, Jiang L, Huang Z, Qu H, Yang Q, Jiang J. Robust ferroelectricity enhancement of PZT thin films by a homogeneous seed layer. Journal of Materials Science 2022, 57(41):19371-19380. doi:10.1007/s10853-022-07835-z]. It should be [Li H, Hu Y, Wei S, Meng Y, Wang N, Zhang Q, Liu L, Peng B. Oxygen plasma-assisted ultra-low temperature sol-gel-preparation of the PZT thin films. Ceramics International 2023, 49(7):10864-10870. doi:10.1016/j.ceramint.2022.11.279].

The reference for [Li et al, 2023a] was incorrectly written as [Li H, Hu Y, Wei S, Meng Y, Wang N, Zhang Q, Liu L, Peng B. Oxygen plasma-assisted ultra-low temperature sol-gel-preparation of the PZT thin films. Ceramics International 2023, 49(7):10864-10870. doi:10.1016/j.ceramint.2022.11.279]. It should be [Yang F, Yuan Z, Wu S, Chen J, Hou M, Liu A, Yu K, Zhang Y, Li X, Hu Y et al. Energy Storage Performance of PZT/PZ Composite Films Obtained by Sol–Gel Method. Phys. Status Solidi A,2023, 220(17):2300233. doi:10.1002/pssa.202300233].

The reference for [Yang et al, 2023] was incorrectly written as [Yang F, Yuan Z, Wu S, Chen J, Hou M, Liu A, Yu K, Zhang Y, Li X, Hu Y et al. Energy Storage Performance of PZT/PZ Composite Films Obtained by Sol–Gel Method. Phys. Status Solidi A,2023, 220(17):2300233. doi:10.1002/pssa.202300233]. It should be [Le Rhun G, Pavageau F, Wagué B, Perreau P, Licitra C, Frey L, Dieppedale C. Highly transparent PZT capacitors on glass obtained by layer transfer process. Journal of Materials Science: Materials in Electronics 2022, 33(36):26825-26833. doi:10.1007/s10854-022-09347-7].

In section, **3.3 Relaxor ferroelectric crystals**, page 8:

The reference for [M et al., 2020] was incorrectly written as [M WC, Muthu SP, P R. Growth and electrical properties of self-flux method grown (1−x)Bi1/2Na1/2TiO3−xBaTiO3 single crystals across the morphotropic phase boundary. Journal of Materials Science: Materials in Electronics 2020, 31(12):9894-9903. doi:10.1007/s10854-020-03534-0]. It should be [Das S, Biswal AK, Parida K, Choudhary RNP, Roy A. Electrical and mechanical behavior of PMN-PT/CNT based polymer composite film for energy harvesting. Applied Surface Science, 2018, 428:356-363. doi: 10.1016/j.apsusc.2017.09.077. Das S, Biswal AK, Roy A. Fabrication of flexible piezoelectric PMN-PT based composite films for energy harvesting. IOP Conference Series: Materials Science and Engineering 2017, 178(1):012020. doi:10.1088/1757-899x/178/1/012020].

In section, **3.4 KNN piezoelectric films**, page 8:

The reference for [Fast et al., 2020] was incorrectly written as [Fast D, Clark M, Fullmer L, Grove K, Nyman M, Gibbons B, Dolgos M. Using simple aqueous precursors for a green synthetic pathway to potassium sodium niobate thin films. Thin Solid Films 2020, 710:138270. doi:10.1016/j.tsf.2020.138270]. It should be [Abu Musa Abdullah, Muhtasim Ul Karim Sadaf, Farzana Tasnim, Horacio Vasquez, Karen Lozano, M. Jasim Uddin, KNN based piezo-triboelectric lead-free hybrid energy films, Nano Energy, Volume 86, 2021, 106133, doi.org/10.1016/j.nanoen.2021.106133.].

The reference for [Abdullah et al, 2021] was incorrectly written as [Abdullah, A. M., Sadaf, M. U. K., Tasnim, F., Vasquez, H., Lozano, K., and Uddin, M. J. (2021). KNN based piezo-triboelectric lead-free hybrid energy films. Nano Energy 86, 106133. doi:10.1016/j.nanoen.2021.106133]. It should be [Nair, K. S., Varghese, H., Chandran, A., Hareesh, U. N. S., Chouprik, A., Spiridonov, M., et al. (2022). Synthesis of KNN nanoblocks through surfactant-assisted hot injection method and fabrication of flexible piezoelectric nanogenerator based on KNN-PVDF nanocomposite. Mater. Today Commun. 31, 103291. doi:10.1016/j.mtcomm.2022.103291].

The reference for [Nair et al, 2022] was incorrectly written as [Nair, K. S., Varghese, H., Chandran, A., Hareesh, U. N. S., Chouprik, A., Spiridonov, M., et al. (2022). Synthesis of KNN nanoblocks through surfactant-assisted hot injection method and fabrication of flexible piezoelectric nanogenerator based on KNN-PVDF nanocomposite. Mater. Today Commun. 31, 103291. doi:10.1016/j.mtcomm.2022.103291]. It should be [Cheng, Y., Fan, W., Chen, H., Xie, L., Xing, J., Tan, Z., et al. (2022). Hardening effect in lead-free KNN-based piezoelectric ceramics with CuO doping. ACS Appl. Mater. Interfaces 14 (50), 55803–55811. doi:10.1021/acsami.2c18015].

The reference for [Cheng et al., 2022] was incorrectly written as [Cheng, Y., Fan, W., Chen, H., Xie, L., Xing, J., Tan, Z., et al. (2022). Hardening effect in lead-free KNN-based piezoelectric ceramics with CuO doping. ACS Appl. Mater. Interfaces 14 (50), 55803–55811. doi:10.1021/acsami.2c18015]. It should be [Kovacova, V., Yang, J. I., Jacques, L., Ko, S. W., Zhu, W., and Trolier-McKinstry, S. (2020). Comparative solution synthesis of Mn doped (Na,K)NbO3 thin films. Chem. - A Eur. J. 26 (42), 9356–9364. doi:10.1002/chem.202000537].

In section, **3.5 ZnO piezoelectric films**, page 8:

The reference for [Sonklin et al., 2022] was incorrectly written as [Sonklin, T., Munthala, D., Leuasoongnoen, P., Janphuang, P., and Pojprapai, S. (2022). Effect of substrate-tilting angle-dependent grain growth and columnar growth in ZnO film deposited using radio frequency (RF) magnetron sputtering method. J. Mater. Sci. Mater. Electron. 33 (21), 16977–16986. doi:10.1007/s10854-022-08576-0]. It should be [Li, S., Zhao, X., Bai, Y., Li, Y., Ai, C., and Wen, D. (2018). Fabrication technology and characteristics research of the acceleration sensor based on Li-doped ZnO piezoelectric thin films. Micromachines 9 (4), 178. doi:10.3390/mi9040178].

In section, **4.2 Flexible sensors**, page 11:

The reference for [Alrammouz et al., 2018] was incorrectly written as [Alrammouz, R., Podlecki, J., Abboud, P., Sorli, B., and Habchi, R. (2018). A review on flexible gas sensors: from materials to devices. Sensors Actuators A Phys. 284, 209–231. doi:10.1016/j.sna.2018.10.036]. It should be [Shin, J., Jeong, B., Kim, J., Nam, V. B., Yoon, Y., Jung, J., et al. (2020). Sensitive wearable temperature sensor with seamless monolithic integration. Adv. Mat. 32 (2), 1905527. doi:10.1002/adma.201905527].

In **Figure 3C**, page 7, the reference for [Guan et al., 2022] was incorrectly written as [Guan, Y., Bai, M., Li, Q., Li, W., Liu, G., Liu, C., et al. (2022). A plantar wearable pressure sensor based on hybrid lead zirconate-titanate/microfibrillated cellulose piezoelectric composite films for human health monitoring. Lab a Chip 22 (12), 2376–2391. doi:10.1039/d2lc00051b]. It should be [Li, Y., Hu, Q., Zhang, R., Ma, W., Pan, S., Zhao, Y., et al. (2022a). Piezoelectric nanogenerator based on electrospinning PVDF/cellulose acetate composite membranes for energy harvesting. Materials 15, 7026. doi:10.3390/ma15197026].

In **Figure 3D**, page 7, the reference should be [Yang, F., Li, J., Long, Y., Zhang, Z., Wang, L., Sui, J., et al. (2021). Wafer-scale heterostructured piezoelectric bio-organic thin films. Science 373 (6552), 337–342. doi:10.1126/science.abf2155].

In **Figure 3E**, page 7, the reference for [Yang et al., 2021] was incorrectly written as [Yang, F., Li, J., Long, Y., Zhang, Z., Wang, L., Sui, J., et al. (2021). Wafer-scale heterostructured piezoelectric bio-organic thin films. Science 373 (6552), 337–342. doi:10.1126/science.abf2155]. It should be [Zhang, Z., Li, X., Peng, Z., Yan, X., Liu, S., Hong, Y., et al. (2023d). Active self-assembly of piezoelectric biomolecular films via synergistic nanoconfinement and *in situ* poling. Nat. Commun. 14 (1), 4094. doi:10.1038/s41467-023-39692-y].

In **Figure 3F**, page 7, the reference for [Liu et al., 2022b] was incorrectly written as [Liu, Y., Dzidotor, G., Le, T. T., Vinikoor, T., Morgan, K., Curry, E. J., et al. (2022b). Exercise-induced piezoelectric stimulation for cartilage regeneration in rabbits. Sci. Transl. Med. 14 (627), eabi7282. doi:10.1126/scitranslmed.abi7282]. It should be [Zhang, Z., Liu, S., Pan, Q., Hong, Y., Shan, Y., Peng, Z., et al. (2022b). Van der Waals Exfoliation Processed Biopiezoelectric Submucosa Ultrathin Films. Adv. Mat. 34 (26), 2200864. doi:10.1002/adma.202200864].

In **Figure 4A**, page 7, the reference for [Wen et al., 2022] was incorrectly written as [Wen, D., Shen, Y., Sun, P., Huang, J., Gu, F., and Wang, L. (2022). Defect regulation of AlN films based on Al-rich AlN targets. Semicond. Sci. Technol. 37 (10), 105001. doi:10.1088/1361-6641/ac889a]. It should be [Patidar, J., Sharma, A., Zhuk, S., Lorenzin, G., Cancellieri, C., Sarott, M. F., et al. (2023). Improving the crystallinity and texture of oblique-angle-deposited AlN thin films using reactive synchronized HiPIMS. Surf. Coatings Technol. 468, 129719. doi:10.1016/j.surfcoat.2023.129719].

In **Figure 4B**, page 7, the reference for [Di Marco et al, 2023] was incorrectly written as [Di Marco MB, Imhoff L, Roldán MV, Barolin S, Stachiotti MG. Sol–gel synthesis and characterization of PZT thin films on FTO/aluminoborosilicate glass substrates. Journal of Materials Science: Materials in Electronics 2023, 34(14):1171. doi:10.1007/s10854-023-10596-3]. It should be [Liu L, Ouyang K, Chen Z, Mo S, Peng Q, Jiang L, Huang Z, Qu H, Yang Q, Jiang J. Robust ferroelectricity enhancement of PZT thin films by a homogeneous seed layer. Journal of Materials Science 2022, 57(41):19371-19380. doi:10.1007/s10853-022-07835-z].

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doi:10.1007/s10854-022-09347-7]. It should be [M, W. C., Muthu, S. P., and P, R. (2020). Growth and electrical properties of self-flux method grown (1−x)Bi1/2Na1/2TiO3−xBaTiO3 single crystals across the morphotropic phase boundary. J. Mater. Sci. Mater. Electron. 31 (12), 9894–9903. doi:10.1007/s10854-020-03534-0].

In **Figure 4D**, page 7, the reference for [Li et al, 2023a] was incorrectly written as [Li, H., Hu, Y., Wei, S., Meng, Y., Wang, N., Zhang, Q., et al. (2023a). Oxygen plasma-assisted ultra-low temperature sol-gel-preparation of the PZT thin films. Ceram. Int. 49 (7), 10864–10870. doi:10.1016/j.ceramint.2022.11.279]. It should be [Abu Musa Abdullah, Muhtasim Ul Karim Sadaf, Farzana Tasnim, Horacio Vasquez, Karen Lozano, M. Jasim Uddin, KNN based piezo-triboelectric lead-free hybrid energy films, Nano Energy, Volume 86, 2021, 106133, doi.org/10.1016/j.nanoen.2021.106133.].

In **Figure 4E**, page 7, the reference for [Abdullah et al, 2022] was incorrectly written as [Abdullah, A. M., Sadaf, M. U. K., Tasnim, F., Vasquez, H., Lozano, K., and Uddin, M. J. (2021). KNN based piezo-triboelectric lead-free hybrid energy films. Nano Energy 86, 106133. doi:10.1016/j.nanoen.2021.106133]. It should be [Nair, K. S., Varghese, H., Chandran, A., Hareesh, U. N. S., Chouprik, A., Spiridonov, M., et al. (2022). Synthesis of KNN nanoblocks through surfactant-assisted hot injection method and fabrication of flexible piezoelectric nanogenerator based on KNN-PVDF nanocomposite. Mater. Today Commun. 31, 103291. doi:10.1016/j.mtcomm.2022.103291].

In **Figure 4F**, page 7, the reference for [Li et al., 2018] was incorrectly written as [Li, S., Zhao, X., Bai, Y., Li, Y., Ai, C., and Wen, D. (2018). Fabrication technology and characteristics research of the acceleration sensor based on Li-doped ZnO piezoelectric thin films. Micromachines 9 (4), 178. doi:10.3390/mi9040178]. It should be [Algün, G., Akçay, N., Öztel, H. O., and Can, M. M. (2023). Synthesis and ultrafast humidity sensing performance of Sr doped ZnO nanostructured thin films: the effect of Sr concentration. J. Sol-Gel Sci. Technol. 107 (3), 640–658. doi:10.1007/s10971-023-06148-0].

In **Figure 4G**, page 7, the reference for [Murthy et al., 2023] was incorrectly written as [Murthy, M. N., Ganesh, V., Ravinder, G., Anusha, S., Chandrakala, G., and Sreelatha, C. J. (2023). Sol–gel synthesized ZnO thin films doped with Rb and Al for self-cleaning antibacterial applications. J. Sol-Gel Sci. Technol. 105 (3), 683–693. doi:10.1007/s10971-023-06044-7]. It should be [Cuadra, J. G., Estrada, A. C., Oliveira, C., Abderrahim, L. A., Porcar, S., Fraga, D., et al. (2023). Functional properties of transparent ZnO thin films synthetized by using spray pyrolysis for environmental and biomedical applications. Ceram. Int. 49 (20), 32779–32788. doi:10.1016/j.ceramint.2023.07.246].

In **Figure 4H**, page 7, the reference for [Sapkota et al, 2022] was incorrectly written as [Sapkota, B., Hasan, M. T., Martin, A., Mahbub, R., Shield, J. E., and Rangari, V. (2022). Fabrication and magnetoelectric investigation of flexible PVDF-TrFE/cobalt ferrite nanocomposite films. Mater. Res. Express 9 (4), 046302. doi:10.1088/2053-1591/ac6151]. It should be [Yuan, C., Zhang, C., Yang, C., Wu, F., Xiao, S., and Sun, H. (2023). Enhanced piezoelectric properties of poly(vinylidene fluoride)/lead zirconate titanate (PVDF/PZT) fiber films fabricated by electrospinning. J. Electron. Mater. 52, 7193–7207. doi:10.1007/s11664-023-10631-3].

In **Figure 4I**, page 7, the reference for [Gupta et al, 2019] was incorrectly written as [Gupta, S., Bhunia, R., Fatma, B., Maurya, D., Singh, D., Gupta, R., et al. (2019). Multifunctional and flexible polymeric nanocomposite films with improved ferroelectric and piezoelectric properties for energy generation devices. ACS Appl. Energy Mater. 2, 6364–6374. doi:10.1021/acsaem.9b01000]. It should be [Zakria, H. S., Othman, M. H. D., Kamaludin, R., Jilani, A., Omar, M. F., Ayub, M., et al. (2023). Removal of bisphenol A from synthetic and treated sewage wastewater using magnetron sputtered CuxO/PVDF thin film photocatalytic hollow fiber membrane. J. Water Process Eng. 51, 103425. doi:10.1016/j.jwpe.2022.103425].

In **Figure 5F**, page 7, the reference for [Nakajima and Tsuchiya et al., 2020] was incorrectly written as [Nakajima, T., and Tsuchiya, T. (2020). Ultrathin highly flexible featherweight ceramic temperature sensor arrays. ACS Appl. Mater Interfaces 12 (32), 36600–36608. doi:10.1021/acsami.0c08718]. It should be [Sun, Y., Gao, X., A, S., Fang, H., Lu, M., Yao, D., et al. (2023). Hydrophobic multifunctional flexible sensors with a rapid humidity response for long-term respiratory monitoring. ACS Sustain. Chem. Eng. 11 (6), 2375–2386. doi:10.1021/acssuschemeng.2c06162].

In addition, there were following errors in the article text.

A correction has been made to **4 Applications in self-powered IoT devices**, *4.1 Energy harvesting*, page 09. This sentence previously stated:

"**Nurettin** suggested a cantilever energy harvester using PIN-PMN-PT crystals, showing high power output with value of 102W/m^3."

The corrected sentence appears below:

"**Gao** suggested a cantilever energy harvester using PIN-PMN-PT crystals, showing high power output with value of 102W/m^3."

A correction has been made to **4 Applications in self-powered IoT devices**, *4.2 Flexible sensors*, page 11. This sentence previously stated:

"On purpose of healthcare monitoring, Nakajima produced thermistor-on-a-polyimide sheet thin-film sensor arrays using strontium- and nickel-doped chalcogenide $SmMnO_3$ (Nakajima and Tsuchiya, 2020), as shown in **Figure 5F**. At bending angles of 60° and 20°, thermistor sensor exhibited notable resilience when subjected to a bending angle of 60° and a minimal bending radius of 500 μm. During a bending test including over 1,000 cycles, the observed temperature variation remained within a narrow range of 0.1°C. Sun developed a humidity sensor with a flexible design using multi-walled carbon nanotubes (MWCNTs) that were securely affixed to the surface folds of a natural latex membrane (Sun et al., 2023)."

The corrected sentence appears below:

"On purpose of healthcare monitoring, Nakajima produced thermistor-on-a-polyimide sheet thin-film sensor arrays using strontium- and nickel-doped chalcogenide $SmMnO_3$ (Nakajima and Tsuchiya, 2020). At bending angles of 60° and 20°, thermistor sensor exhibited notable resilience when subjected to a bending angle of 60° and a minimal bending radius of 500 μm. During a bending test including over 1,000 cycles, the observed temperature variation remained within a narrow range of 0.1°C. Sun developed a humidity sensor with a flexible design using multi-walled carbon nanotubes (MWCNTs) that were securely affixed to the surface folds of a natural latex membrane (Sun et al., 2023), as shown in **Figure 5F**."

The authors apologize for these errors and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

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