

BIBLIOGRAPHY

- [1] PUSDATIN. 2017. Buku Informasi Statistik 2017. 1st ed. ed. PUSDATIN. Jakarta: PUSDATIN.
- [2] W.-F. Chen and L. Duan, *Bridge Engineering Handbook: Fundamentals*. Boca Raton: Taylor & Francis, 2014.
- [3] Rohman, A. Z., & Djuniadi, D. (2015). Rancang Bangun Alat Ukur Getaran Menggunakan Sensor Micro Electro Mechanical System (Mems) Akselerometer. *Edu Elekrika Journal*, 4(1).
- [4] Bridge collapses around the world: Causes and mechanisms, https://www.researchgate.net/publication/281280663_Bridge_collapses_around_the_world_Causes_and_mechanisms (accessed Jul. 20, 2023).
- [5] J.-S. Tan, K. Elbaz, Z.-F. Wang, J. S. Shen, and J. Chen, “Lessons learnt from bridge collapse: A view of sustainable management,” *Sustainability*, vol. 12, no. 3, p. 1205, 2020. doi:10.3390/su12031205.
- [6] Yassar, M. F., Nurwahyudi, N., Meidina, Z., & Darmawan, I. G. B. (2020). Konsep awal penerapan alat akselerometer dan LoRa sebagai pendeteksi ketahanan jembatan yang dapat dipantau melalui data center. In *Prosiding Seminar Nasional Ilmu Teknik Dan Aplikasi Industri Fakultas Teknik Universitas Lampung* (Vol. 3).
- [7] K. C. Crawford, “Bridge deterioration and failures,” *Failure Analysis [Working Title]*, 2023. doi:10.5772/intechopen.109927.
- [8] Q. Jin, Z. Liu, J. Bin, and W. Ren, “Predictive analytics of in-service bridge structural performance from SHM Data Mining Perspective: A case study,” *Shock and Vibration*, vol. 2019, pp. 1–11, 2019. doi:10.1155/2019/6847053.
- [9] D. Caballero-Russi, A. R. Ortiz, A. Guzmán, and C. Canchila, “Design and validation of a low-cost structural health monitoring system for dynamic characterization of structures,” *Applied Sciences*, vol. 12, no. 6, p. 2807, 2022. doi:10.3390/app12062807.

- [10] A. Hamdan, M. T. H. Sultan, and F. Mustapha, "Structural Health Monitoring of Biocomposites, Fibre-Reinforced Composites, and Hybrid Composite," in *Structural Health Monitoring of Biocomposites, Fibre-Reinforced Composites and Hybrid Composites*, Elsevier, 2018, pp. 227–242. doi: 10.1016/B978-0-08-102291-7.00011-3.
- [11] C. Wan, W. Hong, J. Liu, Z. Wu, Z. Xu, and S. Li, "Bridge Assessment and Health Monitoring with Distributed Long-Gauge FBG Sensors," *International Journal of Distributed Sensor Networks*, vol. 2013, 2013, doi: 10.1155/2013/494260.
- [12] Y. Dai, Y. Liu, J. Leng, G. Deng, and A. Asundi, "A novel time-division multiplexing fiber Bragg grating sensor interrogator for Structural Health Monitoring," *Optics and Lasers in Engineering*, vol. 47, no. 10, pp. 1028–1033, 2009. doi: 10.1016/j.optlaseng.2009.05.012.
- [13] B. Ghahremani, A. Enshaeian, and P. Rizzo, "Bridge health monitoring using strain data and high-fidelity finite element analysis," *Sensors*, vol. 22, no. 14, p. 5172, 2022. doi:10.3390/s22145172.
- [14] S. A. Taher *et al.*, "Structural health monitoring of fatigue cracks for steel bridges with wireless large-area strain sensors," *Sensors*, vol. 22, no. 14, p. 5076, 2022. doi:10.3390/s22145076.
- [15] H. Choi, S. Choi and H. Cha, "Structural health monitoring system based on strain gauge enabled wireless sensor nodes", *Proc. 5th Int. Conf. Netw. Sens. Syst.*, pp. 211-214, 2008-Jun.
- [16] L. Zhu *et al.*, "Development of a high-sensitivity wireless accelerometer for Structural Health Monitoring," *Sensors*, vol. 18, no. 1, p. 262, 2018. doi:10.3390/s18010262.
- [17] C. K. Teng, "Structural Health Monitoring of a Bridge Structure Using Wireless Sensor Network," Master's thesis, Western Michigan University, 2022. [Online]. Available: https://scholarworks.wmich.edu/masters_theses/79/. [Accessed: June 5, 2022].

- [18] S.-H. Jeong, W.-S. Jang, J.-W. Nam, H. An, and D.-J. Kim, “Development of a structural monitoring system for cable bridges by using seismic accelerometers,” *Applied Sciences*, vol. 10, no. 2, p. 716, 2020. doi:10.3390/app10020716.
- [19] J. J. Lee and M. Shinozuka, “A Vision-Based System for Remote Sensing of Bridge Displacement,” *NDT and E International*, vol. 39, no. 5, pp. 425–431, Jul. 2006, doi: 10.1016/j.ndteint.2005.12.003.
- [20] J. M. Brownjohn, Y. Xu, and D. Hester, “Vision-based bridge deformation monitoring,” *Frontiers in Built Environment*, vol. 3, 2017. doi:10.3389/fbuil.2017.00023.
- [21] P. Xiao, Z. Y. Wu, R. Christenson, and S. Lobo-Aguilar, “Development of video analytics with template matching methods for using camera as sensor and application to Highway Bridge Structural Health Monitoring,” *Journal of Civil Structural Health Monitoring*, vol. 10, no. 3, pp. 405–424, 2020. doi:10.1007/s13349-020-00392-6.
- [22] X. Zhao *et al.*, “Bridge displacement monitoring method based on laser projection-sensing technology,” *Sensors*, vol. 15, no. 4, pp. 8444–8463, 2015. doi:10.3390/s150408444.
- [23] D. Ribeiro, R. Calçada, J. Ferreira, and T. Martins, “Non-contact measurement of the dynamic displacement of railway bridges using an advanced video-based system,” *Engineering Structures*, vol. 75, pp. 164–180, 2014. doi:10.1016/j.engstruct.2014.04.051.
- [24] L. Zhang, P. Liu, X. Yan, and X. Zhao, “Middle displacement monitoring of medium–small span bridges based on Laser Technology,” *Structural Control and Health Monitoring*, vol. 27, no. 4, 2020. doi:10.1002/stc.2509.
- [25] Y. Xiong, S. Chen, X. Dong, Z. Peng, and W. Zhang, “Accurate Measurement in Doppler Radar Vital Sign Detection Based on Parameterized Demodulation,” *IEEE Transactions on Microwave Theory and Techniques*, vol. 65, no. 11, pp. 4483–4492, Nov. 2017, doi: 10.1109/TMTT.2017.2684138.
- [26] L. N. Ridenour, *Radar System Engineering*. 1947.

- [27] C. Wollf, “Frequency-Modulated Continuous-Wave Radar,” 2018. www.radartutorial.eu.
- [28] C. Li, W. Chen, G. Liu, R. Yan, and Y. Qi, “A Noncontact FMCW Radar Sensor for Displacement Measurement in Structural Health Monitoring,” *Sensors (Switzerland)*, vol. 15, no. 4, pp. 7412–7433, Mar. 2015, doi: 10.3390/s150407412.
- [29] C. Atzeni, A. Bicci, D. Dei, M. Fratini, and M. Pieraccini, “Remote Survey of The Leaning Tower of Pisa by Interferometric Sensing,” *IEEE Geoscience and Remote Sensing Letters*, vol. 7, no. 1, pp. 185–189, Jan. 2010, doi: 10.1109/LGRS.2009.2030903.
- [30] T. A. Stabile, A. Giocoli, A. Perrone, A. Palombo, S. Pascucci, and S. Pignatti, “A New Joint Application of Non-Invasive Remote Sensing Techniques for Structural Health Monitoring,” *Journal of Geophysics and Engineering*, vol. 9, no. 4, Aug. 2012, doi: 10.1088/1742-2132/9/4/S53.
- [31] Q. Huang *et al.*, “Ground-based radar interferometry for monitoring the dynamic performance of a multitrack steel truss high-speed railway bridge,” *Remote Sensing*, vol. 12, no. 16, p. 2594, 2020. doi:10.3390/rs12162594.
- [32] X. Li and F. Li, “Displacement monitoring requirements and laser displacement monitoring technology of bridges with short and medium spans,” *Applied Sciences*, vol. 12, no. 19, p. 9663, 2022. doi:10.3390/app12199663.
- [33] Z. Ma, J. Choi, and H. Sohn, “Structural displacement sensing techniques for Civil Infrastructure: A Review,” *Journal of Infrastructure Intelligence and Resilience*, vol. 2, no. 3, p. 100041, 2023. doi:10.1016/j.iintel.2023.100041.
- [34] R. Haghani, M. Al-Emrani, and M. Heshmati, “Fatigue-prone details in steel bridges,” *Buildings*, vol. 2, no. 4, pp. 456–476, 2012. doi:10.3390/buildings2040456.
- [35] T. N. Shiau, K. H. Huang, F. C. Wang, and W. C. Hsu, “Dynamic response of a rotating multi-span shaft with general boundary conditions subjected to a

- moving load,” *Journal of Sound and Vibration*, vol. 323, no. 3–5, pp. 1045–1060, 2009. doi:10.1016/j.jsv.2009.01.034.
- [36] F. Ridhia, A. Adya Pramudita, Y. Wahyu, and H. H. Ryanu, “Effect of Barrier Walls on Detection of Breathing Vital Signs with Through-Wall Radar,” 2022.
- [37] M. C. Budge Jr and S. R. German, *Basic Radar Analysis*. Massachusetts: ARTECH HOUSE, 2015.
- [38] Q. Huang, M. Crosetto, O. Monserrat, and B. Crippa, “Displacement monitoring and modelling of a high-speed railway bridge using C-band sentinel-1 data,” *ISPRS Journal of Photogrammetry and Remote Sensing*, vol. 128, pp. 204–211, 2017. doi:10.1016/j.isprsjprs.2017.03.016.
- [39] A. C. Amies, C. G. Pretty, G. W. Rodgers, and J. G. Chase, “Experimental validation of a radar-based Structural Health Monitoring System,” *IEEE/ASME Transactions on Mechatronics*, vol. 24, no. 5, pp. 2064–2072, 2019. doi:10.1109/tmech.2019.2934091.
- [40] H. Pratiwi, M. R. Hidayat, A. A. Pramudita, and F. Y. Suratman, “Improved FMCW radar system for Multi-Target detection of human respiration vital sign,” *Jurnal Elektronika dan Telekomunikasi*, vol. 19, no. 2, p. 38, 2019. doi:10.14203/jet.v19.38-44. S
- [41] C. Yang et al., "Physical extraction and feature fusion for multi-mode signals in a measurement system for patients in rehabilitation exoskeleton", *Sensors*, vol. 18, no. 8, pp. 2588, 2018.
- [42] “Permenhub no. 60 tahun 2012,” Database Peraturan | JDIH BPK, <https://peraturan.bpk.go.id/Home/Details/147069/permenhub-no-60-tahun-2012> (accessed Jul. 26, 2023).
- [43] K. Itoh, “Analysis of the phase unwrapping algorithm,” *Applied Optics*, vol. 21, no. 14, p. 2470, 1982. doi:10.1364/ao.21.002470.

- [44] E. Trouve, J.-M. Nicolas, and H. Maitre, “Improving phase unwrapping techniques by the use of local frequency estimates,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 36, no. 6, pp. 1963–1972, 1998. doi:10.1109/36.729368.

- [45] A. A. Pramudita *et al.*, “FMCW radar for noncontact bridge structure displacement estimation,” *IEEE Transactions on Instrumentation and Measurement*, vol. 72, pp. 1–14, 2023. doi:10.1109/tim.2023.3292960.

- [46] S. W. Smith, “Chapter 15: Moving Average Filters,” in *The scientist and engineer’s Guide to Digital Signal Processing*, San Diego, CA: California Technical Pub., 1997, pp. 277–284.