DAFTAR PUSTAKA

Abdelhaleem, S. H., Abd-El-Hafiz, S. K., & Radwan, A. G. (2024). Analysis and guidelines for different designs of pseudorandom number generators. *IEEE Access*, 12, 115697–115715. https://doi.org/10.1109/ACCESS.2024.3445277.

Ablay, G. (2022). Lyapunov exponent enhancement in chaotic maps with uniform distribution modulo one transformation. *Chaos Theory and Applications*, 4(1), 45–58. https://doi.org/10.51537/chaos.1069002.

Aguirregabiria, J. M. (2009). Robust chaos with variable Lyapunov exponent in smooth one-dimensional maps. *Chaos, Solitons & Fractals*, 42(4), 2531–2539. https://doi.org/10.1016/j.chaos.2009.03.196.

Alawida, M. (2023). A novel chaos-based permutation for image encryption. *Journal of King Saud University – Computer and Information Sciences, 35*(6), 101595. https://doi.org/10.1016/j.jksuci.2023.101595.

Alawida, M. (2024). Enhancing logistic chaotic map for improved cryptographic security in random number generation. *Journal of Information Security and Applications*, 80, 103685. https://doi.org/10.1016/j.jisa.2023.103685.

Alghamdi, Y., & Munir, A. (2024). Image encryption algorithms: A survey of design and evaluation metrics. *Journal of Cybersecurity and Privacy*, 4(1), 126–152. https://doi.org/10.3390/jcp4010007.

Alvarez, G., & Li, S. (2006). Some basic cryptographic requirements for chaos-based cryptosystems. *International Journal of Bifurcation and Chaos*, 16(8), 2129–2151. https://doi.org/10.1142/S0218127406015970.

Andrecut, M., & Ali, M. K. (2001). Example of robust chaos in a smooth map. *Europhysics Letters*, 54(3), 300–306. https://doi.org/10.1209/epl/i2001-00241-3.

Banerjee, S., Yorke, J. A., & Grebogi, C. (1998). Robust chaos. *Physical Review Letters*, 80(14), 3049–3052. https://doi.org/10.1103/PhysRevLett.80.3049.

Banks, J., Brooks, J., Cairns, G., Davis, G., & Stacey, P. (1992). On Devaney's definition of chaos. *The American Mathematical Monthly*, 99(4), 332–334. https://doi.org/10.1080/00029890.1992.11995856.

Bartle, R. G., & Sherbert, D. R. (2011). *Introduction to Real Analysis* (4th ed.). John Wiley & Sons.

Chai, X., Shang, G., Cao, L., Jiang, D., Long, G., & Gan, Z. (2024). A novel multi-scroll hyperchaotic system applicable for visually secure image cryptosystem using block compressive sensing. *Nonlinear Dynamics*, 112(2), 1439–1468. https://doi.org/10.1007/s11071-023-09076-4.

Dong, C., Rajagopal, K., He, S., Jafari, S., & Sun, K. (2021). Chaotification of Sine-series maps based on the internal perturbation model. *Results in Physics*, 31, 105010. https://doi.org/10.1016/j.rinp.2021.105010.

Fridrich, J. (1998). Symmetric ciphers based on two-dimensional chaotic maps. *International Journal of Bifurcation and Chaos*, 8(6), 1259–1284. https://doi.org/10.1142/S021812749800098X.

Glendinning, P. (2017). Robust chaos revisited. *The European Physical Journal Special Topics*, 226(9), 1721–1738. https://doi.org/10.1140/epjst/e2017-70058-2.

Goodson, G. R. (2017). *Chaotic Dynamics: Fractals, Tilings, and Substitutions*. Cambridge: Cambridge University Press. https://doi.org/10.1017/9781316285572.

Gong, M., Chai, X., Lu, Y., & Zhang, Y. (2024). Exploiting four-dimensional chaotic systems with dissipation and optimized logical operations for secure image compression and encryption. *IEEE Transactions on Circuits and Systems for Video Technology*, 34(8), 7628–7642. https://doi.org/10.1109/TCSVT.2024.3375868.

Gonzalez, R. C., & Woods, R. E. (2018). *Digital Image Processing* (4th ed.). Pearson.

Ghosh, I., & Simpson, D. J. (2025). Robust chaos in $\mathbb{R}^n$. *Nonlinearity*, 38(9), 095013. https://doi.org/10.1088/1361-6544/ae0114.

Hanum, L., Ertiningsih, D., & Susyanto, N. (2024). Sensitivity analysis unveils the interplay of drug-sensitive and drug-resistant glioma cells: Implications of chemotherapy and anti-angiogenic therapy. *Electronic Research Archive*, 32(1). https://doi.org/10.3934/era.2024004.

Hua, Z., & Zhou, Y. (2019). Exponential chaotic model for generating robust chaos. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 51(6), 3713–3724. https://doi.org/10.1109/TSMC.2019.2932616.

Johnston, D. (2018). *Random Number Generators: Principles and Practices*. Berlin/Boston: De Gruyter. https://doi.org/10.1515/9781501506062.

Jordan, D. W., & Smith, P. (2007). *Nonlinear Ordinary Differential Equations: An Introduction for Scientists and Engineers* (4th ed.). Oxford: Oxford University Press.

Kinsner, W. (2006). Characterizing chaos through Lyapunov metrics. *IEEE Transactions on Systems, Man, and Cybernetics, Part C (Applications and Reviews)*, 36(2), 141–151. https://doi.org/10.1109/TSMCC.2006.871132.

Kuznetsov, Y. A. (2023). *Elements of Applied Bifurcation Theory* (4th ed., Applied Mathematical Sciences, Vol. 112). Cham: Springer. https://doi.org/10.1007/978-3-031-22007-4.

Lasota, A., & Mackey, M. C. (2013). *Chaos, Fractals, and Noise: Stochastic Aspects of Dynamics* (2nd ed.). New York: Springer.

Lawnik, M., Campos-Cantón, E., Moysis, L., Baptista, M. S., & Volos, C. (2025). A transformation of mappings preserving the property of robust chaos. *Chaos, Solitons & Fractals*, 199, 116827. https://doi.org/10.1016/j.chaos.2025.116827.

L'Ecuyer, P. (2012). Random number generation. In J. E. Gentle, W. Härdle, & Y. Mori (Eds.), *Handbook of computational statistics* (2nd ed., pp. 35–71). Springer.

L'Ecuyer, P., & Simard, R. (2007). TestU01: A C library for empirical testing of random number generators. *ACM Transactions on Mathematical Software, 33*(4), Article 22. https://doi.org/10.1145/1268776.1268777

Lin, Y., Yang, Y., & Li, P. (2025). Development and future of compression-combined digital image encryption: A literature review. *Digital Signal Processing*, 158, 104908. https://doi.org/10.1016/j.dsp.2024.104908.

Liu, X., Tong, X., Zhang, M., Wang, Z., & Fan, Y. (2023). Image compression and encryption algorithm based on uniform non-degeneracy chaotic system and fractal coding. *Nonlinear Dynamics*, 111(9), 8771–8798. https://doi.org/10.1007/s11071-023-08281-5.

Lu, C.-C., Feng, X.-F., Teng, L., Wang, C.-P., & Zhang, H. (2024). Blind watermarking algorithm with 2D-SCCM chaotic system encryption based on SURF and RHFMs. *Physica Scripta*, 99(3). https://doi.org/10.1088/1402-4896/ad2827.

Ma, Y. (2023). Research and application of big data encryption technology based on quantum lightweight image encryption. *Results in Physics*, 54, 107057. https://doi.org/10.1016/j.rinp.2023.107057.

May, R. M. (1976). Simple mathematical models with very complicated dynamics. *Nature*, 261(5560), 459–467. https://doi.org/10.1038/261459a0.

Moysis, L., Lawnik, M., Antoniades, I. P., Kafetzis, I., Baptista, M. S., & Volos, C. (2023). Chaotification of 1D maps by multiple remainder operator additions—application to B-spline curve encryption. *Symmetry*, 15(3), 726. https://doi.org/10.3390/sym15030726.

Moysis, L., Lawnik, M., Baptista, M. S., Volos, C., & Fragulis, G. F. (2024). A family of 1D modulo-based maps without equilibria and robust chaos: Application to a PRBG. *Nonlinear Dynamics*, 112(14), 12597–12621. https://doi.org/10.1007/s11071-024-09701-w.

Moysis, L., Lawnik, M., Volos, C., Baptista, M. S., Fragulis, G. F., & Goudos, S. K. (2024b). Validating a chaos-based PRBG under different chaotic maps. In *2024 Panhellenic Conference on Electronics & Telecommunications (PACET)* (pp. 1–4). IEEE. https://doi.org/10.1109/PACET60398.2024.10497085.

Moysis, L., Lawnik, M., Campos-Cantón, E., Baptista, M. S., & Volos, C. (2025). A review of chaotification techniques for discrete-time systems. *Nonlinear Dynamics*, 113, 14103–14119. https://doi.org/10.1007/s11071-025-10934-6.

Moysis, L., Lawnik, M., Alexan, W., Goudos, S. K., Baptista, M. S., & Fragulis, G. F. (2025). Exploiting circular shifts for efficient chaotic image encryption. *IEEE Access*, 13, 92997–93016. https://doi.org/10.1109/ACCESS.2025.3572589.

Nagaraj, N. (2022). The unreasonable effectiveness of the chaotic tent map in engineering applications. *Chaos Theory and Applications*, 4(4), 197–204. https://doi.org/10.51537/chaos.1196653.

National Institute of Standards and Technology. (2015). *Secure Hash Standard (SHS)* (FIPS Publication No. 180-4). U.S. Department of Commerce. https://nvlpubs.nist.gov/nistpubs/FIPS/NIST.FIPS.180-4.pdf

George-Palilonis, J. (2024). Information graphics. In V. F. Filak (Ed.), *Convergent Journalism: An Introduction—Writing and Producing Across Media* (4th ed.). Routledge. https://doi.org/10.4324/9781003402039.

Parashar, A., Rishi, R., Parashar, A., & Rida, I. (2023). Medical imaging in rheumatoid arthritis: A review on deep learning approach. *Open Life Sciences*, 18(1), 20220611. https://doi.org/10.1515/biol-2022-0611.

Patidar, V. (2024). A family of robust chaotic S-unimodal maps based on the Gaussian function. *Frontiers in Physics*, 12, 1328895. https://doi.org/10.3389/fphy.2024.1328895.

Pérez, G. (2004). Robust chaos in polynomial unimodal maps. *International Journal of Bifurcation and Chaos*, 14(7), 2431–2437. https://doi.org/10.1142/S0218127404010722.

Pikovsky, A., & Politi, A. (2016). *Lyapunov Exponents: A Tool to Explore Complex Dynamics*. Cambridge: Cambridge University Press.

Rahman, M., Murmu, A., Kumar, P., Moparthi, N. R., & Namasudra, S. (2024). A novel compression-based 2D-chaotic sine map for enhancing privacy and security of biometric identification systems. *Journal of Information Security and Applications*, 80, 103677. https://doi.org/10.1016/j.jisa.2023.103677.

Ramesh, A., & Suruliandi, A. (2013). Performance analysis of encryption algorithms for information security. In *2013 International Conference on Circuits, Power and Computing Technologies (ICCPCT)* (pp. 840–844). IEEE. https://doi.org/10.1109/ICCPCT.2013.6528957.

Rukhin, A., Soto, J., Nechvatal, J., Smid, M., & Barker, E. (2010). *A Statistical Test Suite for Random and Pseudorandom Number Generators for Cryptographic Applications* (NIST SP 800-22 Rev. 1a). National Institute of Standards and Technology. https://doi.org/10.6028/NIST.SP.800-22r1a.

Shivamoggi, B. K. (2014). *Nonlinear Dynamics and Chaotic Phenomena: An Introduction* (Vol. 103). Cham: Springer.

Stinson, D. R., & Paterson, M. (2017). *Cryptography: Theory and Practice* (4th ed.). Boca Raton, FL: Chapman and Hall/CRC. https://doi.org/10.1201/9781315282497.

Sun, S., Yang, W., Yin, Y., Tian, X., Li, G., & Deng, X. (2025). A color image encryption scheme utilizing a logistic-sine chaotic map and cellular automata. *Scientific Reports*, 15(1), 21603. https://doi.org/10.1038/s41598-025-04968-4.

Tao, H., Qihai, Z., Le, Z., Zhongjun, L., & Xun, L. (2008). An improved scheme for e-signature techniques based on digital encryption and information hiding. In *Proceedings—International Symposium on Information Processing (ISIP 2008) and International Pacific Workshop on Web Mining and Web-Based Application (WMWA 2008)* (pp. 593–597). https://doi.org/10.1109/ISIP.2008.47.

Teh, J. S., Alawida, M., & Sii, Y. C. (2020). Implementation and practical problems of chaos-based cryptography revisited. *Journal of Information Security and Applications*, 50, 102421. https://doi.org/10.1016/j.jisa.2019.102421.

Trujillo-Toledo, D. A., López-Bonilla, O. R., García-Guerrero, E. E., Tlelo-Cuautle, E., López-Mancilla, D., Guillén-Fernández, O., & Inzunza-González, E. (2021). Real-time RGB image encryption for IoT applications using enhanced sequences from chaotic maps. *Chaos, Solitons & Fractals*, 153, 111506. https://doi.org/10.1016/j.chaos.2021.111506.

Wang, Q., Yu, S., Guyeux, C., Bahi, J.-M., & Fang, X. (2014). Theoretical design and circuit implementation of integer domain chaotic systems. *International Journal of Bifurcation and Chaos*, 24(10), 1450128. https://doi.org/10.1142/S0218127414501284.

Wen, H., Lin, Y., Kang, S., Zhang, X., & Zou, K. (2024). Secure image encryption algorithm using chaos-based block permutation and weighted bit planes chain diffusion. *iScience, 27*(1), 108610. https://doi.org/10.1016/j.isci.2023.108610.

Wu, Y., Zhou, Y., Saveriades, G., Agaian, S., Noonan, J. P., & Natarajan, P. (2013). Local Shannon entropy measure with statistical tests for image randomness. *Information Sciences*, 222, 323–342. https://doi.org/10.1016/j.ins.2012.07.049.

Yang, J., Feng, X., Chen, Y., Yan, P., & Zhang, H. (2024). A secure fractal compression scheme based on irregular Latin square, Julia and 2D-FCICM. *Digital Signal Processing*, 155, 104725. https://doi.org/10.1016/j.dsp.2024.104725.

Ye, G., Pan, C., Dong, Y., Shi, Y., & Huang, X. (2020). Image encryption and hiding algorithm based on compressive sensing and random numbers insertion. *Signal Processing*, 172, 107563. https://doi.org/10.1016/j.sigpro.2020.107563.

Zeraoulia, E. (2012). *Robust Chaos and Its Applications* (World Scientific Series on Nonlinear Science, Series A, Vol. 79). Singapore: World Scientific. https://doi.org/10.1142/8296.

Zhang, B., & Liu, L. (2023). Chaos-based image encryption: Review, application, and challenges. *Mathematics, 11*(11), 2585. https://doi.org/10.3390/math11112585.

Zhang, H., & Hu, H. (2024). An image encryption algorithm based on a compound-coupled chaotic system. *Digital Signal Processing*, 146, 104367. https://doi.org/10.1016/j.dsp.2023.104367.