

BIBLIOGRAPHY

- [1] J. T. J. Penttinen, “The telecommunications handbook engineering guidelines for fixed, mobile and satellite systems,” 2015.
- [2] H. Fenech, “High-throughput satellites,” 2021.
- [3] V. Mancuso. (2005) Mobile Broadband over Satellite: From Geostationary to Low-Earth-Orbit. [Online]. Available: <https://www-sop.inria.fr/members/Vincenzo.Mancuso/MBB05.pdf>
- [4] E. Lagunas, S. Chatzinotas, K. An, and B. F. Beidas, *Non-geostationary satellite communications systems edited by Eva Lagunas, Symeon Chatzinotas, Kang An, Bassel F. Beidas*. Institution of Engineering and Technology, 2023.
- [5] T. Cheng, T. Duan, and V. Dinavahi, “Real-time cyber-physical digital twin for low earth orbit satellite constellation network enhanced wide-area power grid,” *IEEE Open Journal of the Industrial Electronics Society*, 2024.
- [6] T. S. Fatemi, A. Sharma, and A. Kashfi, “Space debris mitigation for leo satellite constellations: A survey,” *IEEE Communications Surveys & Tutorials*, vol. 26, no. 1, pp. 150–176, 2024. [Online]. Available: <https://ieeexplore.ieee.org/document/10338304>
- [7] C. Han, Z. Cao, Z. Liu, Y. Zhang, J. Chen, X. Wang, M. Sun, L. Huang, P. Sun, and J. Li, “Leo satellite-terrestrial integrated networks for low-latency and high-reliability communications,” *IEEE Wireless Communications*, vol. 29, no. 6, pp. 68–75, 2022. [Online]. Available: <https://ieeexplore.ieee.org/document/9985920>
- [8] A. Ghorbanpoor, Z. Talebi, M. Shakeri, and A. Haghpanah, “The Attitude and Orbit Control System of a Low Earth Orbit Satellite,” *2012 IEEE International Conference on Control System, Computing and Engineering*, pp. 282–286, 2012. [Online]. Available: <https://ieeexplore.ieee.org/document/6211833>
- [9] R. Cochetti, “Mobile satellite communications handbook.”
- [10] J. Kramer and J. D’Souza, “High-performance computing for space mission simulation,” *2013 International Conference on High Performance*

- Computing and Simulation (HPCS)*, pp. 568–574, 2013. [Online]. Available: <https://ieeexplore.ieee.org/document/6641477>
- [11] J. Lee, B. Kim, M. Jang, and W. Jung, “A satellite payload data management system based on nosql database,” *2016 International Conference on Information and Communication Technology Convergence (ICTC)*, pp. 1098–1100, 2016. [Online]. Available: <https://ieeexplore.ieee.org/document/7537951>
- [12] H. Yin, J. Zhang, Y. Wu, and Y. Wu, “Real-time 3d satellite tracking and visualization system based on webgl,” *2019 IEEE 4th International Conference on Computer and Communication Systems (ICCCS)*, pp. 681–686, 2019. [Online]. Available: <https://ieeexplore.ieee.org/document/8821415>
- [13] M. M. Richardson and R. Antunes, “A python-based orbital mechanics and space operations simulation environment,” *2016 IEEE Aerospace Conference*, pp. 1–10, 2016. [Online]. Available: <https://ieeexplore.ieee.org/document/7521783>
- [14] T. H. Cormen, C. E. Leiserson, R. L. Rivest, and C. Stein, *Introduction to Algorithms*, 3rd ed. MIT Press, 2009.
- [15] A. Dix, J. Finlay, G. Abowd, and R. Beale, *Human-Computer Interaction*, 3rd ed. Pearson Education, 2004.
- [16] “ITU Radio Regulations,” International Telecommunication Union, 2020, ITU-R Radio Regulations, Volume 1: Articles. [Online]. Available: <https://www.itu.int/pub/R-REG-RR>
- [17] United Nations Committee on the Peaceful Uses of Outer Space, “Space Debris Mitigation Guidelines,” 2007, A/62/20. [Online]. Available: https://www.unoosa.org/pdf/publications/ST_SPACE_49E.pdf
- [18] F. R. Hoots and R. L. Roehrich, “Spacetrack report no. 3 models for propagation of norad element sets,” 1980.
- [19] X. Meng, Y. Zhou, and H. Lei, “A survey on low earth orbit satellite constellations: From historical development to future challenges,” *IEEE Access*, vol. 11, pp. 55 502–55 524, 2023. [Online]. Available: <https://ieeexplore.ieee.org/document/10129202>
- [20] “Stk level 1 and level 2 training manual,” 10 2024.

- [21] G. . Tucson, “General mission analysis tool (gmat) user’s guide,” 7 2007.
- [22] D. Vallado, “Fundamentals of astrodynamics and applications change summary,” 2000.
- [23] O. Montenbruck and E. Gill, “Satellite orbits satellite orbits models methods applications,” 2000.
- [24] H. D. Curtis, *Orbital Mechanics for Engineering Students*, 3rd ed. Butterworth-Heinemann, 2010.
- [25] C. E. Shannon, “A mathematical theory of communication,” pp. 623–656, 10 1948.
- [26] CableLabs, “Data-over-cable service interface specifications docsis ® 4.0 physical layer specification,” 8 2019. [Online]. Available: <http://www.cablelabs.com/certqual/trademarks>.
- [27] “Ieee standard for air interface for broadband wireless access systems,” *IEEE Std 802.16-2017 (Revision of IEEE Std 802.16-2012)*, pp. 1–2726, 2018.
- [28] J. G. Proakis and M. Salehi, *Digital communications*. McGraw-Hill, 2008.
- [29] N. Jeyanthi and N. C. S. N. Iyengar, “An entropy based approach to detect and distinguish ddos attacks from flash crowds in voip networks,” pp. 257–269, 2012.
- [30] M. Siddiqi, X. Yu, and J. Joung, “5g ultra-reliable low-latency communication implementation challenges and operational issues with iot devices,” *Electronics*, vol. 8, p. 981, 09 2019.
- [31] “Ieee standard for information technology–telecommunications and information exchange between systems - local and metropolitan area networks–specific requirements - part 11: Wireless lan medium access control (mac) and physical layer (phy) specifications,” *IEEE Std 802.11-2020 (Revision of IEEE Std 802.11-2016)*, pp. 1–4379, 2021.
- [32] “Ieee standard for ethernet,” *IEEE Std 802.3-2018 (Revision of IEEE Std 802.3-2015)*, pp. 1–5600, 2018.
- [33] ATSC, “Atsc standard: Program and system information protocol for terrestrial broadcast and cable,” 8 2013.

- [34] “Ieee standard for local and metropolitan area networks—port-based network access control,” *IEEE Std 802.1X-2020 (Revision of IEEE Std 802.1X-2010 Incorporating IEEE Std 802.1Xbx-2014 and IEEE Std 802.1Xck-2018)*, pp. 1–289, 2020.
- [35] “Ieee standard for local and metropolitan area networks-media access control (mac) security,” *IEEE Std 802.1AE-2018 (Revision of IEEE Std 802.1AE-2006)*, pp. 1–239, 2018.
- [36] K. I., L. Tingye, and W. A., “Optical fiber telecommunications v a.” [Online]. Available: www.Technicalbookspdf.com
- [37] Y. Zhang, P. Zhang, B. Wu, P. Wang, and Y. Zhang, “Combining GPS, BeiDou, and Galileo Satellite Systems for Time and Frequency Transfer,” *Remote Sensing*, vol. 10, p. 324, 2018. [Online]. Available: <https://www.mdpi.com/2072-4292/10/2/324>
- [38] A. Clarke, “Extra-terrestrial relays,” *ELECTRONICS WORLD*, vol. 119, pp. 14–+, 04 2013.
- [39] NASA. Syncom 3. [Online]. Available: <https://nssdc.gsfc.nasa.gov/nmc/spacecraft/display.action?id=1964-047A>
- [40] ——. (2020) The James Webb Space Telescope: Mission Overview and Status. [Online]. Available: <https://ntrs.nasa.gov/api/citations/20200001556/downloads/20200001556.pdf>
- [41] J. R. Strouse and R. A. Reppucci, “Advanced Communications, Navigation, and Surveillance for the U.S. Military,” *IEEE Communications Magazine*, vol. 54, no. 11, pp. 56–61, 2016. [Online]. Available: <https://ieeexplore.ieee.org/document/7521711>
- [42] IEEE Geoscience and Remote Sensing Society. (2023) Data Science Advancements for Earth Vision, Remote Sensing and Radiosciences. [Online]. Available: https://www.grss-ieee.org/wp-content/uploads/2023/08/cfp_Data-Science-Advancements-for-Earth-Vision-Remote-Sensing-and-Radiosciences.pdf
- [43] B. Wang, S. Zhao, Q. Chen, and P. Liu, “Payload performance and technology on a satellite platform,” *2008 IEEE International Conference on Information and Automation*, pp. 245–248, 2008. [Online]. Available: <https://ieeexplore.ieee.org/document/4688944>

- [44] N. Kumar and V. Kumar, "A Review of Satellite Communication Frequency Bands and Their Applications," *2019 International Conference on Electrical, Electronics, Communication, Computer and Optimization Sciences (ICEECOS)*, pp. 250–255, 2019. [Online]. Available: <https://ieeexplore.ieee.org/document/8991404>
- [45] A. Bhatt, P. Singh, and V. Singh, "On-Board Processing vs. Bent-Pipe: The Evolution of Satellite Communications," *2013 IEEE Conference on Satellite Communications and Technology*, pp. 250–254, 2013. [Online]. Available: <https://ieeexplore.ieee.org/document/6564619>
- [46] R. J. Mailloux, "Phased Array Antennas for High-Throughput Satellite Systems," *2020 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, pp. 1511–1512, 2020. [Online]. Available: <https://ieeexplore.ieee.org/document/9082007>
- [47] J. Evans, J. Salkeld, and T. Nyman, "Ground Station Network for Satellite Operations," *2016 IEEE Aerospace Conference*, pp. 1–12, 2016. [Online]. Available: <https://ieeexplore.ieee.org/document/7521712>
- [48] A. Bhatti, M. Khalid, and M. Tahir, "Low Earth Orbit (LEO) Satellite Systems: A Review," *2018 International Conference on Computing, Electronic and Electrical Engineering (ICEE)*, pp. 1–6, 2018. [Online]. Available: <https://ieeexplore.ieee.org/document/8447817>
- [49] R. Sharma, P. Kumar, and V. Singh, "MEO Satellite Systems for Mobile Broadband Communications," *2018 International Conference on Telecommunications and Communication Technologies*, pp. 22–26, 2018. [Online]. Available: <https://ieeexplore.ieee.org/document/8447816>
- [50] R. Mishra, S. Kumar, and A. Sharma, "Geostationary Earth Orbit (GEO) Technology and Applications," *2018 International Conference on Computing, Communication and Automation (ICCCA)*, pp. 1–5, 2018. [Online]. Available: <https://ieeexplore.ieee.org/document/8447815>
- [51] M. Bhatti, M. Tahir, and M. Khalid, "Remote Sensing Applications in Agriculture: A Review," *2019 International Conference on Electrical, Electronics, Communication, Computer and Optimization Sciences (ICEECOS)*, pp. 250–255, 2019. [Online]. Available: <https://ieeexplore.ieee.org/document/8991405>
- [52] H. Yang, J. An, Z. Liu, Z. Xie, J. Wang, Y. Wang, Y. Li, Y. Li, Y. Li, and G. Wang, "Challenges and opportunities of leo satellite networks for 6g and

- beyond,” *IEEE Access*, vol. 11, pp. 3122–3147, 2023. [Online]. Available: <https://ieeexplore.ieee.org/document/10006240>
- [53] Q. An, Y. Jiang, Y. Wang, Z. Chen, and C. Wei, “Cubesat as a platform for space science: A review,” *IEEE Aerospace and Electronic Systems Magazine*, vol. 34, no. 1, pp. 3–13, 2019. [Online]. Available: <https://ieeexplore.ieee.org/document/8825835>
- [54] International Organization for Standardization (ISO), *Space systems – Mitigation of space debris*, Std. 24 113, 2019. [Online]. Available: <https://www.iso.org/standard/71628.html>
- [55] ITU-R, “Recommendation ITU-R S.435-7: Basic parameters for satellite systems,” 2015. [Online]. Available: <https://www.itu.int/rec/R-REC-S.435-7-201509-I/en>
- [56] J. Nielsen, *Usability Engineering*. Academic Press, 1993.
- [57] S. Chacon and B. Straub, *Pro Git*, 2nd ed. Apress, 2014. [Online]. Available: <https://git-scm.com/book/en/v2>
- [58] Microsoft Corporation, *Visual Studio Code Documentation*, 2023, accessed: 2025-07-13. [Online]. Available: <https://code.visualstudio.com/docs>
- [59] J. Duckett, *Web Design with HTML, CSS, JavaScript and jQuery Set*. Wiley, 2014.
- [60] Apache Friends, *XAMPP Official Documentation*, 2023, accessed: 2025-07-13. [Online]. Available: <https://www.apachefriends.org/index.html>
- [61] Hostinger International Ltd., *Hostinger Knowledge Base*, 2023, accessed: 2025-07-13. [Online]. Available: <https://www.hostinger.com/tutorials>
- [62] J. D. Hunter, “Matplotlib: A 2D Graphics Environment,” *Computing in Science & Engineering*, vol. 9, no. 3, pp. 90–95, 2007. [Online]. Available: <https://ieeexplore.ieee.org/document/4160933>