

- Abrahamson, N. A. (1992). Non-stationary spectral matching. *Seismological Research Letters*, 63.
- Akin, M. K., Kramer, S. L., & Topal, T. (2013). Evaluation of Site Amplification of Erbaa, Tokat (Turkey). *International Conference on Case Histories in Geotechnical Engineering Paper No. 4.30a, May*, 0–7.
- Al Atik, L., & Abrahamson, N. (2010). An Improved Method for Nonstationary Spectral Matching. *Earthquake Spectra*, 26(3), 601–617. <https://doi.org/10.1193/1.3459159>
- Ambraseys, N. N. (1988). Engineering seismology: Part II. *Earthquake Engineering & Structural Dynamics*, 17(1), 51–105. <https://doi.org/10.1002/eqe.4290170102>
- Arsyad, A., Amaliyah, A. A. N., Paerong, S., & Djamaluddin, A. R. (2022). Liquefaction Potential Assessment for the City of Mamuju Sulawesi by using N-SPT based methods. *Indonesian Geotechnical Journal*, 1(3), 37–55. <https://doi.org/10.56144/igj.v1i3.28>
- Badan Geologi. (2019). *Atlas Zona Kerentanan Likuefaksi Indonesia*. Kementerian Energi Sumber Daya Mineral.
- Badan Geologi. (2021). *Penyelidikan Geologi Terpadu Menunjang Penataan Ruang pada Kawasan Rawan Bencana Wilayah Mamuju Provinsi Sulawesi Barat Evaluasi Rehabilitasi dan Konstruksi Pasca Bencana Gempabumi Majene 14 – 15 Januari 2021 Provinsi Sulawesi*.
- Badan Meteorologi Klimatologi dan Geofisika. (2021). *Ulasan Guncangan Tanah Akibat Gempa Mamuju Sulawesi Barat 15 Januari 2021*.
- Badan Standarisasi Nasional Indonesia. (2017). *SNI 8460:2017 Persyaratan Perancangan Geoteknik*.
- Badan Standarisasi Nasional Indonesia. (2019). *SNI 1726:2019 Tata Cara Perencanaan Ketahanan Gempa untuk Struktur Bangunan Gedung dan Nongedung*.
- Badan Standarisasi Nasional Indonesia. (2020a). *SNI 1727:2020 Beban Desain Minimum dan Kriteria Terkait untuk Bangunan Gedung dan Struktur Lain*.
- Badan Standarisasi Nasional Indonesia. (2020b). *SNI 8899:2020 Tata Cara Pemilihan dan Modifikasi Gerak Tanah Permukaan untuk Perencanaan Gedung Tahan Gempa*.
- Bentley. (2022). *PLAXIS Material Models CONNECT Edition V22.01*.
- Boulanger, R. W., & Idriss, I. M. (2006). Liquefaction Susceptibility Criteria for Silts and Clays. *Journal of Geotechnical and Geoenvironmental Engineering*, 132(11), 1413–1426. <https://doi.org/10.1061/ASCE1090-02412006132:111413>
- Boulanger, R. W., & Idriss, I. M. (2014). *CPT and SPT Based Liquefaction Triggering Procedures*. Davis: University of California.
- Boulanger, R. W., & Ziotopoulou, K. (2022). *PM4Silt (Version 2): A silt plasticity model for earthquake engi-neering application* (Nomor July 2022). Davis: University of California.
- Boulanger, R. W., & Ziotopoulou, K. (2023). *PM4Sand (Version 3.3): A sand plasticity model for earthquake engineering applications*. Davis: University of California.

- Brandenberg, S. J., Bellana, N., & Shantz, T. (2010). Shear wave velocity as function of standard penetration test resistance and vertical effective stress at California bridge sites. *Soil Dynamics and Earthquake Engineering*, 30(10), 1026–1035. <https://doi.org/10.1016/j.soildyn.2010.04.014>
- Bray, J. D., & Sancio, R. B. (2006). Assessment of the Liquefaction Susceptibility of Fine-Grained Soils. *Journal of Geotechnical and Geoenvironmental Engineering*, 132(9), 1165–1177. [https://doi.org/10.1061/\(ASCE\)1090-0241\(2006\)132:9\(1165\)](https://doi.org/10.1061/(ASCE)1090-0241(2006)132:9(1165))
- Britannica Encyclopedia. (2012). *Soil Liquefaction*. <https://www.britannica.com/science/soil-liquefaction>
- Chen, L. (2020). *Implementation, Verification, Validation, and Application of Two Constitutive Models for Earthquake Engineering Applications*. University of Washington.
- Day, R. W. (2012). *Geotechnical Earthquake Engineering Handbook*. The McGraw-Hill Companies.
- Direktorat Jenderal Bina Marga. (2022). *Pembahasan Penyelenggaraan Keamanan Jembatan Khusus. Kementerian Pekerjaan Umum dan Perumahan Rakyat*.
- GDP-9. (2015). *Liquefaction Potential of Cohesionless Soils* (Nomor August). Department of Transportation, Geotechnical Engineering Bureau.
- Gunawan, E., Kholil, M., & Widiyantoro, S. (2022). Coseismic slip distribution of the 14 January 2021 Mamuju-Majene, Sulawesi, earthquake derived from GPS data. *Natural Hazards*, 111(1), 939–948. <https://doi.org/10.1007/s11069-021-05084-y>
- Hamilton, W. (1973). Tectonics of the Indonesian Region. *Bulletin of the Geological Society of Malaysia*, 6, 3–10. <https://doi.org/10.7186/bgsm06197301>
- Hancock, J., Watson-lamprey, J., Abrahamson, N. A., Julian, J., Markatis, A., Mc Coyh, E., & Mendis, R. (2006). An Improved Method of Matching Response Spectra of Recorded Earthquake Ground Motion Using Wavelets. *Journal of Earthquake Engineering*, 10(1), 67–89. <https://doi.org/10.1080/13632460609350629>
- Hardiyatmo, H. C. (2020). *Analisis dan Perancangan Fondasi II (5th ed.)*. Gadjah Mada University Press.
- Hardiyatmo, H. C. (2022). *Rekayasa Gempa untuk Analisis Struktur dan Geoteknik*. Gadjah Mada University Press.
- Hatanaka, M., & Uchida, A. (1996). Empirical Correlation Between Penetration Resistance and Internal Friction Angle of Sandy Soils. *Soils and Foundations*, 36(4), 1–9. https://doi.org/10.3208/sandf.36.4_1
- Hazirbaba, K. (2005). *Pore pressure generation characteristics of sands and silty sands: A strain approach*. The University of Texas at Austion.
- Hutabarat, D., & Bray, J. D. (2021). Effective Stress Analysis of Liquefiable Sites to Estimate the Severity of Sediment Ejecta. *Journal of Geotechnical and Geoenvironmental Engineering*, 147(5). [https://doi.org/10.1061/\(asce\)gt.1943-5606.0002503](https://doi.org/10.1061/(asce)gt.1943-5606.0002503)
- Idriss, I. M. (1999). An Update to the Seed-Idriss Simplified Procedure for Evaluating Liquefaction Potential. *Proceedings of TRB Workshop on New Approaches to Liquefaction*.

- Irsyam, M., Cummins, P. R., Asrurifak, M., Faizal, L., Natawidjaja, D. H., Widiyantoro, S., Meilano, I., Triyoso, W., Rudiyanto, A., Hidayati, S., Ridwan, M., Hanifa, N. R., & Syahbana, A. J. (2020). Development of the 2017 national seismic hazard maps of Indonesia. *Earthquake Spectra*, 36(1_suppl), 112–136. <https://doi.org/10.1177/8755293020951206>
- Ishihara, K. (1985). Stability of natural deposits during earthquakes. *Proc. 11th international conference on soil mechanics and foundation engineering*, 321–376.
- Iwasaki, T., Arakawa, T., & Tokida, K. (1982). Simplified procedures for assessing soil liquefaction during earthquakes. *Proceeding of the Conference on Soil Dynamics and Earthquake Engineering*, 925–939.
- Jalil, A., Fathani, T. F., Satyarno, I., & Wilopo, W. (2021). Nonlinear site response analysis approach to investigate the effect of pore water pressure on liquefaction in Palu. *IOP Conference Series: Earth and Environmental Science*, 871(1). <https://doi.org/10.1088/1755-1315/871/1/012053>
- Jiaer, W. U., Kammerer, A. M., Riemer, M. F., Seed, R. B., & Pestana, J. M. (2004). Laboratory study of liquefaction triggering criteria. In 13th world conference on earthquake engineering. *In 13th World Conference on Earthquake Engineering*, 2580, 2580.
- Johannessen, I. J., & Bjerrum, L. (1965). Measurement of the Compression of a Steel Pile to Rock due to Settlement of the Surrounding Clay. *6th International Conference on Soil Mechanics and Foundation Engineering (Montréal)*.
- Kanno, T., Narita, A., Morikawa, N., Fujiwara, H., & Fukushima, Y. (2006). A New Attenuation Relation for Strong Ground Motion in Japan Based on Recorded Data. *Bulletin of the Seismological Society of America*, 96(3), 879–897. <https://doi.org/10.1785/0120050138>
- Kaul, M. K. (1978). Spectrum-consistent time-history generation. *Journal of the Engineering Mechanics Division*, 104(4), 781–788.
- Kementerian PUPR. (2022). *Detail Engineering Design (DED) Perencanaan Rekonstruksi Masjid Agung Syuhada Kab. Mamuju*.
- Kramer, S. L. (1996). *Geotechnical Earthquake Engineering*. Prentice-Hall.
- Kramer, S. L. (2008). *Evaluation of Liquefaction Hazards in Washington State* (Nomor December).
- Kurniawandy, A., Aminsya, M., Ulfah Cahyadi, B., & Djauhari, Z. (2023). Comparative study of the simulation ground motion by amplitude scale and spectral matching. In A. Hakam, Fauzan, S. Subbarayan, & A. Safuan A. Rashid (Ed.), *E3S Web of Conferences* (Vol. 464, hal. 02007). <https://doi.org/10.1051/e3sconf/202346402007>
- Lambe, T. W., & Whitman, R. V. (1969). *Soil Mechanics*. John Wiley & Sons.
- Lilhanand, K., & Tseng, W. S. (1987). Generation of synthetic time histories compatible with multiple-damping response spectra. *Transactions of the 9th international conference on structural mechanics in reactor technology*.

- Lilhanand, K., & Tseng, W. S. (1988). Development and application of realistic earthquake time histories compatible with multiple-damping design spectra. *Proceedings of Ninth World Conference on Earthquake Engineering*, 819–824.
- Mase, L. Z. (2018). Studi Keandalan Metode Analisis Likuefaksi Menggunakan SPT Akibat Gempa 8,6 Mw, 12 September 2007 di Area Pesisir Kota Bengkulu. *Jurnal Teknik Sipil*, 25(1), 53. <https://doi.org/10.5614/jts.2018.25.1.7>
- Mase, L. Z., Tanapalungkorn, W., Likitlersuang, S., Ueda, K., & Tobita, T. (2022). Liquefaction analysis of Izumio sands under variation of ground motions during strong earthquake in Osaka, Japan. *Soils and Foundations*, 62(5), 101218. <https://doi.org/10.1016/j.sandf.2022.101218>
- McClelland, B. (1974). Design of Deep Penetration Piles for Ocean Structures. *Journal of the Geotechnical Engineering Division*, 100(7), 709–747. <https://doi.org/10.1061/AJGEB6.0000064>
- Meilano, I., Salman, R., Susilo, S., Shiddiqi, H. A., Supendi, P., Lythgoe, K., Tay, C., Bradley, K., Rahmadani, S., Kristyawan, S., & Yun, S.-H. (2023). The 2021 M W 6.2 Mamuju, West Sulawesi, Indonesia earthquake: partial rupture of the Makassar Strait thrust. *Geophysical Journal International*, 233(3), 1694–1707. <https://doi.org/10.1093/gji/ggac512>
- Meyerhof, G. G. (1976). Bearing Capacity and Settlement of Pile Foundations. *Journal of the Geotechnical Engineering Division*, 102(3), 197–228. <https://doi.org/10.1061/AJGEB6.0000243>
- Nassaji, F., & Kalantari, B. (2011). SPT Capability to Estimate Undrained Shear Strength of Fine-Grained Soils of Tehran, Iran. *Electronic Journal of Geotechnical Engineering*, 1229–1238.
- Nicks, J. (2017). Liquefaction-induced downdrag on Continuous Flight Auger (CFA) piles from full-scale tests using blast liquefaction. *US Department of Transportation: Federal Highway Administration, FHWA-HRT-1(1)*, 1–12.
- Pacific Earthquake Engineering Research Center. (2014). *NGA West-2*. <https://ngawest2.berkeley.edu/spectras/>
- Preumont, A. (1984). The Generation of Spectrum Compatible Accelerograms for the Design of Nuclear Power Plants. *Earthquake Engineering and Structural Dynamics*, 12, 481–497.
- Pusat Studi Gempa Nasional (Pusgen). (2017). *Peta Sumber dan Bahaya Gempa Indonesia Tahun 2017*. Pusat Litbang Perumahan dan Permukiman, Badan Penelitian dan Pengembangan Kementerian PUPR.
- Ratman, N., & Atmawinata, S. (2010). Peta Geologi Lembar Mamuju, Sulawesi Skala 1:250.000. *Badan Geologi*.
- Rocscience. (2022a). *RSPile Axially Loaded Piles Theory Manual*.
- Rocscience. (2022b). *RSPile Laterally Loaded Piles Theory Manual*.
- Satilah, S. El. (2024). *Analisis Potensi Likuefaksi dan Pengaruhnya Terhadap Kapasitas Dukung Fondasi Tiang Bor (Studi Kasus: Pembangunan Kantor Gubernur Provinsi Sulawesi Barat)*. Universitas Gadjah Mada.

- Seed, H. B., & Idriss, I. M. (1971). Simplified Procedure for Evaluating Soil Liquefaction Potential. *Journal of the Soil Mechanics and Foundations Division*, 97(9), 1249–1273. <https://doi.org/10.1061/JSFEAQ.0001662>
- Seed, R. B., Cetin, K. O., Moss, R. E. S., Kammerer, A. M., Wu, J., Pestana, J. M., Riemer, M. F., Sancio, R. B., Bray, J. D., Kayen, R. E., & Faris, A. (2003). *Recent Advances in Soil Liquefaction Engineering: a Unified and Consistent Framework*. 3.
- Sengara, I. W., & Sulaiman, A. (2020). Nonlinear Dynamic Analysis Adopting Effective Stress Approach of an Embankment Involving Liquefaction Potential. In S.-J. Hwang, L. Comfort, I. W. Segara, & A. Hakam (Ed.), *E3S Web of Conferences* (Vol. 156, hal. 02018). <https://doi.org/10.1051/e3sconf/202015602018>
- Serhalawan, Y., & Chen, P.-F. (2024). Seismotectonics of Sulawesi, Indonesia. *Tectonophysics*, 883(July 2023), 230366. <https://doi.org/10.1016/j.tecto.2024.230366>
- Setiawan, Y. (2024). *Non-linear Analysis of Pile Foundation in Liquefiable Soil Using Dynamic Constitutive Model and Seismic Hazard Analysis*. Universitas Gadjah Mada.
- Sonmez, H., & Gokceoglu, C. (2005). A liquefaction severity index suggested for engineering practice. *Environmental Geology*, 48(1), 81–91. <https://doi.org/10.1007/s00254-005-1263-9>
- Supartoyo, Suwargana, H., & Karim, A. (2022). Dampak Gempa Bumi Di Sulawesi Barat Dan Upaya Mitigasi. *Jurnal Geominerba (Jurnal Geologi, Mineral Dan Batubara)*, 7(2), 104–118. <https://doi.org/10.58522/ppsdm22.v7i2.101>
- Supendi, P., Ramdhan, M., Priyobudi, Sianipar, D., Wibowo, A., Gunawan, M. T., Rohadi, S., Riama, N. F., Daryono, Prayitno, B. S., Murjaya, J., Karnawati, D., Meilano, I., Rawlinson, N., Widiyantoro, S., Nugraha, A. D., Marliyani, G. I., Palgunadi, K. H., & Elsera, E. M. (2021). Foreshock–mainshock–aftershock sequence analysis of the 14 January 2021 (Mw 6.2) Mamuju–Majene (West Sulawesi, Indonesia) earthquake. *Earth, Planets and Space*, 73(1), 106. <https://doi.org/10.1186/s40623-021-01436-x>
- Syed, E. U., & Manzoor, K. M. (2022). Analysis and design of buildings using Revit and ETABS software. *Materials Today: Proceedings*, 65, 1478–1485. <https://doi.org/10.1016/j.matpr.2022.04.463>
- Tolozza, P. V. (2018). *Liquefaction Modelling using the PM4Sand Constitutive Model in PLAXIS 2D*. Delft University of Technology.
- Tsuchida, H. (1970). Prediction and Countermeasure against Liquefaction in Sand Deposits. *The Seminar of the Port and Harbour Research Institute*.
- USGS. (2024a). *M 6.2 - 32 km S of Mamuju, Indonesia*. <https://earthquake.usgs.gov/earthquakes/eventpage/us7000d030/r%0Aegion-info>
- USGS. (2024b). *M 7.0 - 38 km N of Majene, Indonesia*. <https://earthquake.usgs.gov/earthquakes/eventpage/iscgem812497/region-info>
- Wang, W. (1979). *Some Findings in Soil Liquefaction*.
- Youd, T. L., Tinsley, J. C., Perkins, D. M., King, E. J., & Preston, R. F. (1979). Liquefaction Potential Map of San Fernando Valley, California. *Geological Survey Circular (United States)*.

Yuwana, D. A., Kurniah, & Buana, T. W. (2021). Manifestasi Likuefaksi dan Gerakan Tanah Akibat Gempa Bumi 14 Dan 15 Januari 2021 Di Majene, Sulawesi Barat. *Geo Spatial Proceeding*, 106–113.

Zakariya, A., Rifa'i, A., & Ismanti, S. (2023). The Correlation of Liquefaction Potential and Probability on Excess Pore Water Pressure in Kretek 2 Bridge Area. *Journal of the Civil Engineering Forum*, 10(January), 39–48. <https://doi.org/10.22146/jcef.7002>

Zhao, J. X., Irikura, K., Zhang, J., Fukushima, Y., & Somerville, P. G. (2004). Site Classification for Strong-Motion Stations in Japan using H/V Response Spectral Ratio. *13th World Conference on Earthquake Engineering*, 1278.