

DAFTAR PUSTAKA

- Adufu, T., Choi, J., dan Kim, Y., 2015, Is container-based technology a winner for high performance scientific applications?, 17th Asia-Pacific Netw. Oper. Manag. Symp. Manag. a Very Connect. World, APNOMS 2015, 507–510.
- Alford, R.M., Kelly, K., dan R., Boore, D.M., 1974, Accuracy of Finite-Difference Modeling Of The Acoustic Wave Equation, GEOPHYSICS, 39, 834–842.
- Alterman, Z. dan Karal, F.C., 1968, Propagation of elastic waves in layered media by finite difference methods, Bull. Seism. Soc. Am., 58, 367–398.
- Bielak, J., Xu, J., dan Ghattas, O., 1999, Earthquake Ground Motion and Structural Response in Alluvial Valleys, J. Geotech. Geoenvironmental Eng., 125, 413–423.
- Boore, D.M., 1970, Love waves in nonuniform wave guides: Finite difference calculations. J. Geophys. Res., 75, 1512–1527.
- Carcione, J.M., 1993, The wave equation in generalized coordinates, SEG Annu. Meet., 59, 1206–1208.
- Carcione, J.M., Kosloff, D., Kosloff, R., 1988, Wave propagation simulation in a linear viscoacoustic medium, Geophys. J, 93, 393–401.
- Che, S., Boyer, M., Meng, J., Tarjan, D., Sheaffer, J.W., Skadron, K., 2008, A performance study of general-purpose applications on graphics processors using CUDA, J. Parallel Distrib. Comput, 68, 1370–1380.
- Cook, J., 2017, Docker for Data Science, Apress, California.
- Costain, J.K. dan Coruh, C., 2004, Basic Theory of Reflection Seismology, Elsevier, Oxford.
- Docker, t.thn. Docker overview. <https://docs.docker.com/get-started/overview/> , diakses 1 Maret 2020.
- Frankel, A. dan Vidale, J., 1992, A Three-Dimensional Simulation of Seismic Waves In The Santa Clara Valley, California, From A Loma Prieta Aftershock, Bull. Seismol. Soc. Am., 82, 2045–2074.
- Gadallah, M.R. dan Fisher, R., 2009, Exploration Geophysics, Springer Berlin Heidelberg, Berlin Heidelberg.
- Gazdag, J., 1981, Modeling of the acoustic wave equation with transform methods, Geophysics, 46, 854–859.
- Graves, R.W., 1996, Simulating seismic wave propagation in 3D elastic media



- using staggered-grid finite differences, *Bull. Seism. Soc. Am.*, 86, 1091–1106.
- Igel, H., 2017, Computational Seismology, Oxford University Press, Oxford.
- Kelly, K.R., Ward, R.W., Treitel, S., dan Alford, R.M., 1976, Synthetic Seismograms: A Finite-difference Approach. *GEOPHYSICS*, 41, 2–27.
- Komatitsch, D., Erlebacher, G., Göddeke, D., Michéa, D., 2010. High-order finite-element seismic wave propagation modeling with {MPI} on a large {GPU} cluster. *J. Comput. Phys.* 229, 7692–7714.
- Komatitsch, D., Michéa, D., dan Erlebacher, G., 2009. Porting a high-order finite-element earthquake modeling application to NVIDIA graphics cards using CUDA. *J. Parallel Distrib. Comput.*, 69, 451–460.
- Komatitsch, D. dan Tromp, J., 1999, Introduction to the spectral element method for three-dimensional seismic wave propagation, *Geophys. J. Int.*, 139, 806–822.
- Komatitsch, D. dan Vilotte, J.P., 1998, The spectral element method: An efficient tool to simulate the seismic response of 2D and 3D geological structures, *Bull. Seismol. Soc. Am.*, 88, 368–392.
- Kosloff, D., Kessler, D., Filho, A.Q., Tessmer, E., Behle, A., dan Strahilevitz, R., 1990, Solution of the equations of dynamic elasticity by a Chebychev spectral method, *Geophysics*, 55, 734–748.
- Lysmer, J. dan Drake, L., 1972. Evolving geometrical and material properties of fault zones in a damage rheology model, Academic Press, Amsterdam, 181–216.
- Magoon, L.B. dan Dow, W.G., 2000, Mapping the petroleum system - An investigative technique to explore the hydrocarbon fluid system. *AAPG Mem.* , 73, 53–68.
- Marfurt, K.J., 1984, Accuracy of finite-difference and finite-element modeling of the scalar and elastic wave equations, *GEOPHYSICS*, 49, 533–549.
- Memari, N., Samsudin, K.B., dan Hashim, S.J.B., 2014, Towards virtual honeynet based on LXC virtualization. *IEEE TENSYMP 2014 - 2014 IEEE Reg. 10 Symp.*, 496–501.
- Morency, C. dan Tromp, J., 2008, Spectral-element simulations of wave propagation in porous media, *Geophys. J. Int.*, 175, 301–345.
- Neupane, B., Zhao, J., Ju, Y., dan Baral, U., 2020, Occurrence of unconventional hydrocarbon deposits and its structural relation in Nepal Himalaya : implication for future exploration Occurrence of unconventional hydrocarbon deposits and its structural relation in Nepal Himalaya : implication for future



- e, Arabian Journal of Geoscience, 81.
- Newman, W.I., 2012. Continuum Mechanics in the Earth Sciences, Cambridge University Press, Cambridge.
- Nielsen, F., 2016. Introduction to HPC with MPI for Data Science, Springer, Switzerland.
- Nvidia, t.thn, NVIDIA Container Toolkit, <https://github.com/NVIDIA/nvidia-docker>, diakses 1 Maret 2020.
- Pacheco, P., 2011, An Introduction to Parallel Programming, An Introduction to Parallel Programming, Morgan Kaufmann Publishers, Burlington.
- Priolo, E., Carcione dan J.M., Seriani, G., 1994, Numerical simulation of interface waves by high-order spectral modeling techniques, J. Acoust. Soc. Am., 95, 681–693.
- Reshef, M., Kosloff, D., Edwards, dan M., Hsiung, C., 1988, Three-dimensional elastic modeling by the Fourier method, GEOPHYSICS, 53, 1184-1193
- Rudianto, I. dan Sudarmaji, 2018, Spectral-element simulation of two-dimensional elastic wave propagation in fully heterogeneous media on a GPU cluster, J. Phys. Conf. Ser., 1011, 3–8.
- Selley, R.C. dan Sonnenberg, S.A., 2014, Elements of Petroleum Geology: Third Edition, Academic Press, Amsterdam.
- Seron, F.J., Sanz, F.J., Kindelan, M., dan Badal, J.I., 1990, Finite-element method for elastic wave propagation, Commun. Appl. Numer. Methods, 6, 359–368.
- Shearer, P.M., 2009, Introduction to Seismology, Cambridge University Press, Cambridge.
- Soltesz, S., Pötzl, H., Fiuczynski, M.E., Bavier, A., Peterson, L., 2007. Container-based operating system virtualization. In: Proceedings of the 2nd ACM SIGOPS/EuroSys European Conference on Computer Systems 2007 - EuroSys '07, ACM Press, New York, hal. 275.
- Sudarmaji, Rudianto, I., dan Nurcahya, B.E., 2018, Numerical Modeling of 3D Seismic Wave Propagation around Yogyakarta, the Southern Part of Central Java, Indonesia, Using Spectral-Element Method on MPI-GPU Cluster. J. Phys. Conf. Ser. 1011.
- Sudarmaji, S., Rudianto, I., Rahmara, M.K., dan Alfontius, Y., 2019, Seismic Wave Propagation Simulation in a Poro-elastic Medium Using Spectral Method Elements in MPI-GPU Cluster: Study Case of Anticline Reservoir Trap, Indones. J. Appl. Phys., 9, 9.



UNIVERSITAS
GADJAH MADA

Simulasi Perambatan Gelombang Seismik dengan Memanfaatkan Pemrosesan Berbasis CPU dan GPU

Menggunakan SPECFEM2D pada Kontainer Docker: Studi Kasus Model Reservoir Minyak Bumi

NIVAN RAMADHAN SUGIANTORO, Dr. Sudarmaji, S.Si., M.Si.

Universitas Gadjah Mada, 2020 | Diunduh dari <http://etd.repository.ugm.ac.id/>

Trobec, R., Slivnik, B., Bulić, P., dan Robić, B., 2018, Introduction to Parallel Computing, Undergraduate Topics in Computer Science, Springer International Publishing, Cham.

Zheng, L., Zhao, Q., Milkereit, B., Grasselli, G., Liu, Q., 2014, Spectral-element simulations of elastic wave propagation in exploration and geotechnical applications, *Earthq. Sci.*, 27, 179–187.