

## DAFTAR PUSTAKA

- Aboud.E., El-Masry. N., Qaddah.A., Alqahtani., and Moufti. M.R.H., 2015, Magnetic and Gravity data analysis of Rabat Volcanic Field, El-Madinah City, Saudi Arabia, NRIAG Journal of Astronomy and Geophysics, V.4, P.154-162.
- Abidin. H.Z., Andreas. H., Kato.T., Ito. T., Meilano.I., Kimata.F., Natawidjaya.D.H., and Harjono.H., 2009, Crustal Deformation Studies in Java (Indonesia) Using GPS, Journal Earthquake and Tsunami, Vol.3, No.2, P.77-78.
- Agustin. N., 2016, Struktur Bawah Permukaan Cindercone dan Maar Gunung Parang Pada Kawasan Gunungapi Lamongan Berdasarkan Metode Magnetik, Tesis S2, Jurusan Fisika, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Gadjah Mada, Yogyakarta.
- Amin. J., and Valentine G.A., 2017, Compound maar crater and co-eruptive scoria cone in the Lunar Crater Volcanic Field (Nevada, USA)., Journal of Volcanology and Geothermal Research, 339, p.41-51.
- Anonim, 2016, Laporan Kegiatan Gunungapi Merapi Tahun 2001, Direktorat Jendral Geologi dan Sumber Daya Mineral [www.pvmbg.geologi.esdm.go.id](http://www.pvmbg.geologi.esdm.go.id) diakses 8 Agustus 2017 pukul 22.00.
- Astutuk.Y.T., Maryanto. S., Purnomo. S., 2013, Pendugaan Jenis Batuan di daerah Panas Bumi Tiris Kabupaten Probolinggo Jawa Timur berdasarkan Anomali Gayaberat, Physics Student Journal Vol 1, No 1, page. pp.213-216
- Aziz.K.N., 2017, Identifikasi Struktur Bawah Permukaan di Lapangan Panasbumi Lamongan berdasarkan analisis data Gravitasi GGMPlus, Tesis S2, Program Studi S2 Fisika, Departemen Fisika, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Gadjah Mada.
- Balmino, G., Moynot, B., Sarrailh, M. dan Vales, N., 1987, Free Air Gravity Anomalies Over the Oceans From Seasat and GEOS 3 Altimeter Data, Eos Transactions American Geophysical Union, Vol. 69, No. 2, p. 17-19.
- Baranov, V. and Naudy, H., 1964, Numerical Calculation of the Formula of Reduction to the Magnetic Pole. Geophysics, 29, 67-79.
- Bemmelen, R.W.V, 1949. The Geology of Indonesia. Govt. Printing Office, Nijhoff, The Hague, 732 p.
- Benson. A.K., and Floyd. A.R., 2000, Application of gravity and magnetic methods to assess geological hazards and natural resource potential in the Mosida Hills, Utah Country, Utah, Geophysics, V.65, No. 5, p.1514-1526.
- Bettadpur, S., 2016, Satellite Gravity: GRACE and GOCE, diakses tanggal 15 Desember 2018 di alamat: <https://www.ngs.noaa.gov/GRAV->

D/2016SummerSchool/presentations/day-  
5/2SrinivasBettadpur\_spaceborne.pdf

- Blaikie. T.N., Ailleres.L., Betts.P.G., and Cas. R.A.F., 2014, Interpreting subsurface volcanic structures using geologically constrained 3-D gravity inversions: Examples of maar-diatremes, Newer Volcanics Province, southeastern Australia, *Journal of Geophysical Research: Solid Earth*.
- Blakely, R. J., 1995, *Potential Theory in Gravity and magnetic application*, Cambridge : Cambridge University Press.
- Blackman R.B., and Tukey J.W., 1958, The Measurement of Power Spectra from the Point of View of Communications Engineering-Part I, *The Bell System Technical Journal*, p.186-282
- Bonvalot, S., Balmino, G., Briais, A., Kuhn, M., Peyrefitte, A., Vales, N., Biancale, R., Gabalda, G., Moreaux, G., Reinquin, F. dan Sarrailh, M., 2012, *World Gravity Map*, Bureau Gravimetrique International (BGI), Vol. 1, p. 1-8.
- Bowie, W., 1917, *Investigations of gravity and isostasy*. U.S. Coast and Geodetic Survey, Spec. Publ. No. 40, Washington.
- Bronto. S, Situmorang. T, W. dan Effendi, 1986, *Peta Geologi Gunungapi Lamongan*, Lumajang Jawa Timur.
- Bronto, S., Mulyaningsih, S., 2007, Gunung api maar di Semenanjung Muria *Jurnal Geologi Indonesia*, Vol. 2 No. 1 Maret 2007: 43-54
- Bullard E.C and Cooper R.I.B, 1948, The determination of the masses necessary to produce a given gravitational field, *Proc. Of The Royal Soc.*, 194, p.332-347.
- Calamai., P.H, and Moré., J.J, 1987, Projected gradient methods for linearly constrained problems, *Mathematical Programming*, Vol.39, Issue 1, pp 93–116.
- Carn. S.A., 2000, The Lamongan volcanic field, East Java, Indonesia: physical volcanology, historic activity and hazards, *Journal of Volcanology and Geothermal Research*, p. 81-108.
- Carn. S.A., and Pyle. D.M., 2001, Petrology and Geochemistry of the Lamongan Volcanic Field, East Java, Indonesia: Primitive Sunda Arc Magmaz in an Extensional Tektonic Setting?, *Journal of Petrology*, Vol.42, Number.9, p.1643-1683.
- Cas, R.A.F., Wright, J.V., 1987, *Volcanic Successions: Modern and Ancient*, Unwyn Hyman, London, 528 p.
- Cassinis, G., 1930, Sur l'adoption d'une formule internationale pour la pesanteur normale. *Bull. Geod.* No. 26, 40-49, 1930.
- Clarke. H., Troll. V.R., and Carracedo. J.C., 2009, Phreatomagmatic to Strombolian eruptive activity of basaltic cindercones: Montana Los Eroles,

Tenerife, Canary Islands, *Journal of Volcanology and Geothermal Research*, 180, p.225-245.

*Center of Volcanology and Geological Hazard Mitigation (CVGHM)*, tanpa tahun, diakses di : <https://volcano.si.edu/volcano.cfm?vn=263320> tanggal 12 Januari 2019

Direktorat Jendral Geologi dan Sumber Daya Mineral, 2001, *Laporan Kegiatan Gunung Merapi Tahun 2001*.

Dampney, C.N.G., 1969, The equivalent source technique, *Geophysics*, 34(1), 39-53.

Drinkwater, M.R., Floberghagen, R., Haagmans, R., Muzi, D., dan Popescu, A., 2003, GOCE: ESA's First Earth Explorer Core Mission, *Space Science Reviews*, Vol. 108, No. 1-2, p. 419-432.

Fairhead. J.D., 2011, *Potential Field Methods for Oil and Mineral Exploration GETECH*, Univ. of Leeds.

Fatimatuazzahroh., S, 2015, *Analisis Struktur Geologi Daerah Ranu Gedang Berdasarkan Data Anomali Medan Magnet*, Skripsi S1, Jurusan Fisika, Fakultas Sains dan Teknologi, Universitas Islam Negeri Maulana Malik Ibrahim, Malang.

Fernania. N, Maryanto., S dan Rahmanto. F., 2013, Identifikasi Litologi di daerah Panasbumi Tiris Probolinggo berdasarkan metode Magnetik, *Physics Student Journal*, Vol.1, No.1, Brawijaya University.

Gertisser.R., Charbonnier.S.J., Troll.V.R., Keller.J., Preece.K., Chadwick.J.P., Barclay.J., and Herd.R.A., 2011, Merapi (Java, Indonesia): anatomy of a killer volcano, *Geology Today*, Willey Online Library, <https://doi.org/10.1111/j.1365-2451.2011.00786.x>, Blackwell Publishing Ltd, The Geologists' Association & The Geological Society of London, *Geology Today*, Vol. 27, No. 2, March–April.

Gudmundsson. M.T., and Hognadottir. T., 2006, Volcanic systems and calderas in the Vatnajokull region, central Iceland: Constraints on crustal structure from gravity data, *Journal of Geodynamics* 43, p.153-169.

Haaz, I. B., 1953, Relationship between the potential of the attraction of the mass contained in a finite rectangular prism and its first and second derivatives, *Geofizikai Kozlemenyek*, II, No 7.

Hammer, S., 1939, Terrain corrections for gravimeter stations, *Geophysics* V.4(3), p.184-194.

Helmert, F. R., 1901, Der normale Theil der Schwerkraft im Meeresniveau. Sitz. Ber. Kgl. Preuß. Akad. d. Wiss.sch. zu Berlin, 328-336, 1901.

Hendrasto, 2013, diakses pada tanggal 31 Juli 2017, <https://www.jejaktapak.com/2014/03/11/3-gunung-ini-mendapat-perhatian-ekstra/>

- Hinze, W.J., von Frese, R.R.B., dan Saad, A.H., 2012, *Gravity and Magnetic Exploration*, Cambridge University Press, New York.
- Hirt, C., 2012, Efficient and accurate high-degree spherical harmonic synthesis of gravity field functionals at the Earth's surface using the gradient approach, *Journal of Geodesy*, 86(9), p.729-744.
- Hirt, C., Claessens, S., Fecher, T., Kuhn, M., Pail, R. dan Rexer, M., 2013, New Ultra-High Resolution Picture of Earth's Gravity Field, *Geophysical Research Letters*, Vol. 40.
- Inbar, M., Gilichinsky, M., Melekestsev, I., Melnikov, D., and Zaretskaya, N., 2011, Morphometric and morphological development of Holocene cinder cones: A field and remote sensing study in the Tolbachik volcanic field, Kamchatka, *Journal of Volcanology and Geothermal Research*, 201, p.301-311.
- International Association of Geodesy, 1971, *Geodetic Reference System 1967*, Bull. Geod., Publ. Spec. No. 3, Paris.
- Ilham, N. and Niasari, S.W., 2018, Identification the geothermal system using 1-D audiomagnetotelluric inversion in Lamongan volcano field, East Java, Indonesia, *IOP Conf. Series: Journal of Physics: Conf. Series* 1011 (2018) 012029 doi :10.1088/1742-6596/1011/1/012029.
- Islamiyah R, 2015, Analisis data anomali gravitasi untuk memodelkan struktur geologi bawah permukaan Ranu Segaran, Skripsi S1 Jurusan Fisika, Fakultas Sains dan Teknologi, Universitas Islam Negeri Maulana Malik Ibrahim Malang.
- Juanita, I.L., 2016, Aplikasi Metode Geomagnetik Untuk Mengetahui Struktur Geologi Bawah Permukaan Ranu Segaran Duwes, Kecamatan Tiris Kabupaten Probolinggo Provinsi Jawa Timur, Skripsi S1, Jurusan Fisika, Fakultas Sains dan Teknologi, Universitas Islam Negeri Maulana Malik Ibrahim, Malang.
- Johannessen, J., 1999, *Gravity Field and Steady-State Ocean Circulation Mission*, Reports for Mission Selection, The Four Candidate Earth Explorer Core Missions, European Space Agency (ESA), Paris.
- Katili, J. A., 1980, Geochronology of West Indonesia and Its Implication on Plate Tectonics. *Geotectonics of Indonesia, A Modern View*. Directorate General of Mines, (VII+)271, 181-198.
- Kereszturi, G., Németh K., 2012, *Updates in Volcanology - New Advances in Understanding Volcanic Systems*, Intech Open Access.
- Kohn, Y., Setijadji, L.D., Utami, P., Harijoko, A., Pecskey, Z., Imai, A., and Watanabe, K., 2005, Geochronology and petrogenetic aspects of Merapi - Merbabu-Telomoyo-Ungaran volcanoes, Central Java, Indonesia.

- Kurtenbach, E., Eicker, A., Mayer, G.T., Holschneider, M., Hayn, M., Fuhrmann, M., dan Kusche, J., 2012, Improved Daily GRACE Gravity Field Solutions Using a Kalman-Smoother, *Journal of Geodynamics* Vol. 59-60, p. 39-48.
- Lee, T.Y., and Lawver, L.A., 1995, Cenozoic plate reconstruction of southeast Asia, *Tectonophysics* 251, 85–138.
- Li Y., and Oldenburg D.W., 1996, 3-D inversion of magnetic data, *Geophysics*, V.61, No.2, p.394-408.
- Loera, H.L., and Fucugauchi. J.U., and Valdivia. L.M.A., 2010, Magnetic characteristics of fracture zones and constraints on the subsurface structure of the Colima Volcanic Complex, Western Mexico, *Geosphere*, V.6, No. 1, p.35-46
- Lorenz. V., and Kurszlaukis.S., 2006, Root zone processes in the phreatomagmatic pipe emplacement model and consequences for the evolution of maar-diatreme volcanoes, *Journal of Volcanology and Geothermal Research*, 159, p.4-32.
- Lorenz. V., 2007, Syn- and post-eruptive hazards of maar-diatreme volcanoes, *Journal of Volcanology and Geothermal Research*, 159, p.285-312.
- Luthfi. A.N., 2017, Pemodelan Bawah Permukaan Maar Gunungapi Berdasarkan Analisis Data Magnetik (Studi Kasus di Daerah Ranu Merah, Desa Andungsari, Kecamatan Tiris, Kabupaten Probolinggo, Provinsi Jawa Timur, Skripsi S1, Jurusan Fisika, Fakultas Sains dan Teknologi, Universitas Islam Negeri Maulana Malik Ibrahim, Malang.
- Matahelumual, J., 1990. Gunungapi Lamongan. *Berita Berkala Vulkanologi*, Edisi Khusus No. 125.
- Mayer G.T., Kurtenbach, E., dan Eicker, A., 2017, ITG-GRACE2010 Gravity Field Model <http://www.ikg.uni-bonn.de/apmg/index.php?id=itggrace2010#content1207> Diakses pada tanggal 7 Maret 2019.
- Mordensky. S.P., and Wallace. P.J., 2018, Magma storage below Cascades shield volcanoes as inferred from melt inclusion data: A comparison of long-lived and short-lived magma plumbing systems, *Journal of Volcanology and Geothermal Research*, 368, p.1-12.
- Moritz, H., 1984, Geodetic reference system 1980: *Bulletin Geodesique*, Vol. 58, No. 3, pp 388-398.
- Moritz, H., 2000, Geodetic Reference System 1980, *J. Geod*, 74: 128-133. Nagy, D., 1966, The Gravitational Attraction of a Right Rectangular Prism, *Geophysics*, Vol. 31, No. 2, p. 362-371.
- Nabighian. M.N., 1972, The analytic signal of two-dimensional magnetic bodies with polygonal cross-section: its properties and use for automated anomaly interpretation, *Geophysics*, 37, p.507-517.

- Nagy, D. 1966, The gravitational attraction of a right rectangular prism, *Geophysics*, 31, 361–371.
- Nunez.G.C., Ort. M.H., and Romero. C., 2007, Evolution and hydrological conditions of a maar volcano (Atexcac crater, Eastern Mexico), *Journal of Volcanology and Geothermal Research* 159, p.179-197.
- Pail, R., 2014, CHAMP-, GRACE-, GOCE-Satellite Projects Global Gravity Field Modeling, *Encyclopedia of Geodesy*, Cham: Springer International Publishing, p. 1-11.
- Pavlis, N.K., Holmes, S.A., Kenyon, S.C. dan Factor, J.K., 2012, The Development and Evaluation of the Earth Gravitational Model 2008 (EGM2008), *Journal of Geophysical Research*, Vol. 117, No. B04406.
- Pratomo, I., 2006, Klasifikasi gunungapi aktif di Indonesia, studi kasus dari beberapa letusan gunungapi dalam sejarah, *Jurnal Geologi Indonesia*, Vol.1, No.4., p.209-227
- PVMBG, tanpa tahun, Diakses tanggal 31 Juli 2017, [http://www.vsi.esdm.go.id/index.php/kegiatan-pvmbg/download-center/doc\\_download/403-g-lamongan](http://www.vsi.esdm.go.id/index.php/kegiatan-pvmbg/download-center/doc_download/403-g-lamongan)
- Roest. W.R., Verhoef. J., and Pilkington. M., 1992, Magnetic Interpretation using the 3-D analytic signal, *Geophysics*, V.57(1), p.116-125.
- Ross.P.S., White.J.D.L., Valentine. G.A., Taddeucci.J., Sonder.I., and Andrews. R.G., 2013, Experimental birth of a maar-diatreme volcano, *Journal of Volcanology and Geothermal Research*, 260, p.1-12.
- Rooney, T.O., Bastow, I.D., and Keir,D., 2011, Insights into extensional processes during magma assisted rifting: Evidence from aligned scoria cones, *Journal of Volcanology and Geothermal Research*, 201, p.83-96.
- Schön.J.H., 2015, Physical properties of rocks : fundamentals and principles of petrophysics [2 ed.], Elsevier, Amsterdam, Netherlands.
- Schieferdecker, A.A.G., 1959, Geological Nomenclature Royal Geologi and Minings Soc. Of The Netherlands, J. Noorduijn en Zoon N.V., Gorinchem, 523.
- Simkin, T. and Siebert, L, 1997, Volcanoes of the World, *Geol. Mag.*, 134(1), pp.121-142.
- Simkin, T., and Fiske, R.S., 1983. Krakatau 1883; the volcanic eruption and its effects. Smithsonian Institute, Washington, DC.
- Sigurdsson, H., 2000, *Encyclopedia of Volcanoes*, Academic Press, A Harcourt Science and Technology Company, USA.
- Smithsonian Institution (Tanpa tahun), National Museum of Natural History, Global Volcanism Program, diakses pada tanggal 17 Maret 2019 di [https://volcano.si.edu/search\\_volcano.cfm](https://volcano.si.edu/search_volcano.cfm)



- Smyth, H., R. Hall, J. Hamilton, P. Kinny, 2005, East Java: Cenozoic Basins, Volcanoes and Ecient Basement, in 30th Annual Convention of the Indoneisan Petroleum Association, p. 251-266.
- Stagpoole. V., Tontini. F.C., Barretto. J., Davy. B., and Edbrooke. S.W., 2016, Inversion of magnetic and gravity data reveals subsurface igneous bodies in Northland, New Zealand, New Zealand, Journal of Geology and Geophysics.
- Stummer, C., Gruber, T., Bouman, J., danRispen, S., 2008, GOCE Gradiometry – A Guide for Users, IAG International Symposium - Gravity, Geoid and Earth Observation, Chania, 23 – 27 Juni 2008
- Suharsono dan Suwarti.T, 1992, Peta Geologi Lembar Probolinggo, dan Lumajang, Jawa, Pusat Penelitian dan Pengembangan Geologi, Bandung.
- Sukhyar. R, Situmorang.T., Bronto.S., Effendy.W., 1980, Laporan kemajuan pemetaan geologi komplek Gunung Lamongan Tahap II, Jawa Timur, E.80-7.
- Tapley, B.D., Bettadpur, S., Watkins, M., danReigber, C., 2004, The Gravity Recovery and Climate Experiment: Mission Overview and Early Results, Geophysical Research Letter, Vol. 31, doi: 10.1029/2004gl019920, American Geophysical Union.
- Telford, M.W., Gerdart, L.P., Sheriff, R.E., Keus, D.A., 1990, Applied Geophysics, Cambrige University Press.Yulia. T., Maryanto. S, dan Purnomo. S., 2013, Pendugaan Janis Batuan di daerah Panasbumi Tiris Kabupaten Probolinggo Jawa Timur berdasarkan anomaly Gayabarat, Physics Student Journal, Vol.1, No.1, Brawijaya University.
- Torge, W., 2001, Geodesy 3rd Edition, De Gruyter, Berlin.vanBemmelen, R.W., 1949, The Geology of Indonesia, Vol. 1A, GovernmentPrinting Office, The Hauge.Whitehead, N., 2010, Montaj Gravity and Terrain Correction, Geosoft.<http://www.geosoft.com/search-result/?q=montaj+Gravity+and+Terrain+Correction>, Diakses pada tanggal 2 Januari 2018.
- Turcotte, D.L., and Schubert, G., 1982, Geodynamics: Applications of Continuum Physics to Geological Problems, John Wiley and Sons Inc., New York.
- Utama.W., Bahri.A.S., dan Warnana.D.D., 2012a, Analisis Citra Landsat ETM+ untuk Kajian Awal Penentuan Daerah Potensi Panas Bumi di Gunungapi Lamongan , Tiris, Probolinggo, Jurnal Fisika dan Aplikasinya, Vol. 8, No.1.
- Utama.W., Aini.D.N., dan GNW.R., 2012b, Citra Satelit DEM dan Landsat ETM+ dalam analisis patahan manifestasi geothermal sebagai tinjauan awal untuk penentuan eksplorasi geomagnetik di wilayah Tiris Probolinggo, Jurnal Fisika dan Aplikasinya, Vol. 8, No.1.
- Van Bemmelen, R.W., 1949. The Geology of Indonesia. Govt. Printing Office, Nijhoff, The Hague, 732 p.

- Van Padang. M.N., 1983, History of the volcanology in the former Netherlands East Indies, Scripta Geol. 71. P.1-76, Leiden.
- Wassermann, J., 2002, IASPEI, New Manual of Seismological Observatory. GeoForschungsZentrum Potsdam, Jerman.
- Walter, T.R., Wang, M. Zimmer, H. Grosser, B. Luehr, and A. Ratdomopurbo , 2007, Volcanic activity influenced by tectonic earthquakes: Static and dynamic stress triggering at Mt. Merapi, Geoph. Research Letters, v. 34, L05304.
- White. J.D.L. and Ross. P.S., 2011, Maar-diatreme volcanoes: A review, Journal of Volcanology and Geothermal Research, 201, p.1-29.