UNIVERSITAS
GADJAH MADA
KAJIAN STRUKTUR KRISTAL, SIFAT KEMAGNETAN DAN LAJU ABSORPSI SPESIFIK PADA NANOPARTIKEL Mn-NiFe2O4 DAN POTENSI APLIKASINYA UNTUK TERAPI HIPERTERMIA
ASEP INDRA SAPUTRA, Dr. Edi Suharyadi, M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Aakash, Choubey, R., Das, D., dan Mukherjee, S., 2016, Effect of Doping of Manganese Ions on the Structural and Magnetic Properties of Nickel Ferrite, *Journal of Alloys and Compounds*, 668, 6, 33-39

Abdallah, H.M.I. dan Moyo, T., 2014, Superparamagnetic Behavior of $Mn_xNi_{1-x}Fe_2O_4$ Spinel Nanoferrites, *Journal of Magnetism and Magnetic Materials*, 361, 170-174.

Abenojar, E.C., Wickramasinghe, S., Bas-Concepcion, J., Samia, A.C.S., 2016, Structural Effects on the Magnetic Hyperthermia Properties of Iron Oxide Nanoparticles, *Progress in Natural Science*, 26, 5, 440-448.

Adawi, H., 2016, Surface Effect of Ferromagnetic Nanoparticles On Transition Between Single- And Multi-Domain Structure Or Between Single-Domain Structure And Superparamagnetic Phase, *Disertasi*, Department of Physics, Wright State University, Dayton.

Andra, W., Hafeli, U., Hergt, R., dan Misri, R., 2007, *Application of Magnetic Particles in Medicine and Biology*, Kronmuller, H. dan Parkin, S.(Ed.), *Handbook of Magnetism and Advanced Magnetic Materials*, John Wiley & Sons, New Jersey.

Andrade, Â.L., Souza, D.M., Pereira, M.C., Fabris, J.D., Domingues, R.Z., 2010, pH Effect on the Synthesis of Magnetite Nanoparticles by the Chemical Reduction-Precipitation Method, 33, 3, 524-527.

Arshad, M., Asghar, M., Junaid, M., Warsi, M.F., Rasheed, M.N., Hashim, M., Al-Maghrabi, M.A., dan Khan, M.A., 2018, Structural and Magnetic Properties Variation of Manganese Ferrites via Co-Ni Substitution, *Journal of Magnetism and Magnetic Materials*, 474, 98-103.

Arul, K.T., Manikandan, E., Ladchumananandasivam, R., dan Maaza, M., 2016, Novel Polyvinyl Alcohol Polymer Based Nanostructure with Ferrites Co-Doped with Nickel and Cobalt Ions for Magneto-Sensor Application, *Polymer International.*

Bae, S., Lee, S. W., dan Takemura, Y., 2006, Applications of $NiFe_2O_4$ Nanoparticles for A Hyperthermia Agent in Biomedicine, *Applied Physics Letters*, 89, 25, 4–7.

Bae, S., Lee, S.W., Hirukawa, A., Takemura, Y., Jo, Y.H., dan Lee, S.G., 2009, AC Magnetic-Field-Induced Heating and Physical Properties of Ferrite Nanoparticles for a Hyperthermia Agent in Medicine, *IEEE Transactions on Nanotechnology*, 8, 1, 86-94.

UNIVERSITAS
GADJAH MADA
KAJIAN STRUKTUR KRISTAL, SIFAT KEMAGNETAN DAN LAJU ABSORPSI SPESIFIK PADA NANOPARTIKEL Mn-NiFe2O4 DAN POTENSI APLIKASINYA UNTUK TERAPI HIPERTERMIA
ASEP INDRA SAPUTRA, Dr. Edi Suharyadi, M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Barati, M.R., Suzuki, K., Selomulya, C., dan Garitaonandia, J.S., 2013, New T_c-Tuned Manganese Ferrite-Based Magnetic Implant for Hyperthermia Therapy Application, *IEEE Transactions on Magnetics*, 49, 7, 3460-3463.

Blundell, S., 2001, *Magnetism in Condensed Matter*, Oxford University Press, Oxford.

Buschow, K.H.J. dan de Boer, F.R., 2004, *Physics of Magnetism and Magnetic Materials*, Springer, Berlin.

Callister, W.D., 2013, *Materials Science and Engineering: An Introduction*, Wiley, New Jersey.

Callister, W.D. dan Retwisch, D.G., 2015, *Fundamentals of Materials Science and Engineering: An Integrated Approach*, Wiley, New Jersey.

Cao, D., Pan, L., Li, J., Cheng, X., Zhao, Z., Xu, J., Li, Q., Wang, X., Li, S., Wang, J., dan Liu, Q., 2018, Investigation on the Structures and Magnetic Properties of Carbon or Nitrogen Doped Cobalt Ferrite Nanoparticles, *Scientific Reports*, 8, 1.

Chaikin, P.M. dan Lubensky, T.C., 1995, *Principles of Condensed Matter Physics*, Cambridge University Press, Cambridge.

Chou, C.K., 1990, Use of Heating Rate and Specific Absorption Rate in the Hyperthermia Clinic, *International Journal of Hyperthermia*, 6, 2, 367–370.

Coey, J.M.D., 2010, *Magnetism and Magnetic Materials*, Cambridge University Press, Cambridge.

Cohen, M.L. dan Louie, S.G., 2016, *Fundamentals of Condensed Matter Physics*, Cambridge University Press, Cambridge.

Cullity, B.D., dan Graham, C.D., 2008, *Introduction to Magnetic Materials*, Wiley-IEEE Press, New Jersey.

Dahotre, S.G. dan Singh, L.N., 2013, Synthesis and Characterization of Nanoferrite, *Journal of Pure Applied and Industrial Physics*, 3, 3, 199-204.

Dimitrov, I. L., 2019, Crystal Nucleation from Solutions of Proteins with Temperature-Independent Solubility: A Case Study of Apoferritin, *Cryst. Eng. Comm.*, 21, 8, 1279–1287.

Dinnebier, R.E. dan Billinge, S.J.L., 2008, *Principles of Powder Diffraction*, Dinnebier, R.E. dan Billinge, S.J.L. (Ed.), *Powder Diffraction: Theory and Practice*, The Royal Society of Chemistry, Cambridge.

Doaga, A., Cojocariu, A.M., Amin, W., Heib, F., Bender, P., Hempelmann, R., dan Caltun, O.F., 2013, Synthesis and Characterizations of Manganese Ferrites for Hyperthermia Applications, *Materials Chemistry and Physics*, 143, 1, 305–310.

UNIVERSITAS
GADJAH MADA
KAJIAN STRUKTUR KRISTAL, SIFAT KEMAGNETAN DAN LAJU ABSORPSI SPESIFIK PADA NANOPARTIKEL Mn-NiFe2O4 DAN POTENSI APLIKASINYA UNTUK TERAPI HIPERTERMIA
ASEP INDRA SAPUTRA, Dr. Edi Suharyadi, M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Dongol, M., El-Denglaweya, A. Elhady, A.F. dan Abuelwafa, A.A., 2012, Structural Properties of Nano 5, 10, 15, 20-Tetraphenyl-21H,23H-Porphine Nickel (II) Thin Films, *Current Applied Physics*, 12, 5, 1334-1339.

Egerton, R.F., 2005, *Physical Principles of Electron Microscopy: An Introduction to TEM, SEM, and AEM*, Springer US, New York.

Elkhova, T. M., Gun'ko, Y. K., Pyatakov, A. P., Spichkin, Y. I., Dawson, K., dan Tishin, A. M., 2014, The Experimental Setup for Measuring of Thermal Parameters of Magnetic Fluids in AC Magnetic Field, *Solid State Phenomena*, 215, 454–458.

España, J. S., 2017, Crystallization in Acidic Media: from Nanoparticles to Macrocrystals. *Seminario SEM*, 13, 1, 15–34.

Fernandez-Roldan, J. A., De Riz, A., Trapp, B., Thirion, C., Vazquez, M., Toussaint, J. C., dan Gusakova, D., 2019, Modeling Magnetic-Field-Induced Domain Wall Propagation in Modulated-Diameter Cylindrical Nanowires, *Scientific Reports*, 9, 1, 1–12.

Flewitt, P.E.J. dan Wild, R.K., 2001, *Physical Methods for Materials Characterisation*, Taylor & Francis, Abingdon.

Fortin, J.P., Wilhelm, C., Servais, J., Ménager, C., Bacri, J.C., dan Gazeau, F., 2007, Size-Sorted Anionic Iron Oxide Nanomagnets as Colloidal Mediators for Magnetic Hyperthermia, *Journal of the American Chemical Society*, 129, 9, 2628-2635.

Gabal, M.A. dan Ata-Allah, S.S., 2004, Effect of Diamagnetic Substitution on the Structural, Electrical and Magnetic Properties of $CoFe_2O_4$, *Materials Chemistry and Physics*, 85, 104-112.

Garaio, E., Collantes, J.M., Garcia, J.A., Plazaola, F., Mornet, S., Couillaud, F., dan Sandre, O., 2014, A Wide-Frequency Range AC Magnetometer to Measure the Specific Absorption Rate in Nanoparticles for Magnetic Hyperthermia, *Journal of Magnetism and Magnetic Materials*, 368, 432-437.

Getzlaff, M., 2008, *Fundamentals of magnetism*, Springer-Verlag, Berlin.

Ghasemi, A., Ekhlasi, S., dan Mousavinia, M., 2014, Effect of Cr and Al Substitution Cations on The Structural and Magnetic Properties of $Ni_{0.6}Zn_{0.4}Fe_{2-x}Cr_{x/2}Al_{x/2}O_4$ Nanoparticles Synthesized Using The Sol-Gel Auto-Combustion method, *Journal of Magnetism and Magnetic Materials*, 354, 136–145.

Ghayour, H., Abdellahi, M., Ozada, N., Jabbrzare, S., dan Khandan, A., 2017, Hyperthermia Application of Zinc Doped Nickel Ferrite Nanoparticles, *Journal of Physics and Chemistry of Solids*, 111, 464-472.

Gilbert, F., Refait, P., Lévêque, F., Remazeilles, C., dan Conforto, E., 2008, Synthesis of Goethite from $Fe(OH)_2$ Precipitates: Influence of Fe(II)

UNIVERSITAS
GADJAH MADA
KAJIAN STRUKTUR KRISTAL, SIFAT KEMAGNETAN DAN LAJU ABSORPSI SPESIFIK PADA NANOPARTIKEL Mn-NiFe2O4 DAN POTENSI APLIKASINYA UNTUK TERAPI HIPERTERMIA
ASEP INDRA SAPUTRA, Dr. Edi Suharyadi, M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Concentration and Stirring Speed. *Journal of Physics and Chemistry of Solids*, 69, 8, 2124–2130.

Goldman, A., 2006, *Modern Ferrite Technology*, Springer, Berlin.

Gupta, N., Pant, P., Gupta, C., Goel, P., Jain, A., Anand, S., dan Pundir, A., 2017, Engineered Magnetic Nanoparticles as Efficient Sorbents for Wastewater Treatment: A Review, *Materials Research Innovations*, 2, 7, 434-450.

Hanini, A., Kacem, K., Gavard, J., Abdelmelek, H., dan Ammar, S., 2018, *Ferrite Nanoparticles for Cancer Hyperthermia Therapy*, Hussain, C.M. (Ed.), *Handbook of Nanomaterials for Industrial Applications, Micro and Nano Technologies*, Elsevier, Amsterdam.

Henriksen, N. E., dan Hansen, F. Y., 2008, *Theories of Molecular Reaction Dynamics*, Oxford University Press, Oxford.

Hildebrandt, B., Gellermann, J., Riess, H., dan Wust, P., 2011, *Induced Hyperthermia in the Treatment of Cancer*, Minev, B.R. (Ed.), *Cancer Management in Man: Chemotherapy, Biological Therapy, Hyperthermia and Supporting Measures*, Springer, Berlin.

Ho, C. H., dan Lai, C. H., 2006, Size-Dependent Magnetic Properties of PtMn Nanoparticles, *IEEE Transactions on Magnetics*, 42, 10, 3069–3071.

Hollas, J.M., 2004, *Modern Spectroscopy*, Wiley, New Jersey.

Inukai, A., Sakamoto, N., Aono, H., Sakurai, O., Shinozaki, K., Suzuki, H., dan Wakiya, N., 2011, Synthesis and Hyperthermia Property of Hydroxyapatite Ferrite Hybrid Particles by Ultrasonic Spray Pyrolysis, *Journal of Magnetism and Magnetic Materials*, 323, 7, 965–969.

Ishizaki T., Yatsugi K., dan Akedo K., 2016, Effect of Particle Size on the Magnetic Properties of Ni Nanoparticles Synthesized with Trioctylphosphine as the Capping Agent, *Nanomaterials*, 6, 9.

Issa, B., Obaidat, I. M., Albiss, B. A., dan Haik, Y., 2013, Magnetic Nanoparticles: Surface Effects and Properties Related to Biomedicine Applications, *International Journal of Molecular Sciences*, 14, 11, 21266–21305.

Iwashita, N., 2011, *X-ray Powder Diffraction*, Inagaki, M. dan Kang, F. (Ed.), *Materials Science and Engineering of Carbon: Characterization*, Butterworth-Heinemann, Oxford.

Javed, Y., Ali, K. dan Jamil, Y., 2017, *Magnetic Nanoparticle-Based Hyperthermia for Cancer Treatment: Factors Affecting Heat Generation Efficiency*, Sharma, S.K. (Ed.), *Complex Magnetic Nanostructures*, Springer Nature, Switzerland.

Jeun, M., Bae, S., Tomitaka, A., Takemura, Y., Park, K. H., Paek, S. H., dan Chung, K. W., 2009, Effects of Particle Dipole Interaction on The Ac Magnetically Induced Heating Characteristics of Ferrite Nanoparticles for Hyperthermia, *Applied Physics Letters*, 95, 8, 130–133.

UNIVERSITAS
GADJAH MADA
KAJIAN STRUKTUR KRISTAL, SIFAT KEMAGNETAN DAN LAJU ABSORPSI SPESIFIK PADA NANOPARTIKEL Mn-NiFe2O4 DAN POTENSI APLIKASINYA UNTUK TERAPI HIPERTERMIA
ASEP INDRA SAPUTRA, Dr. Edi Suharyadi, M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Jeun, M., Lee, S., Kim, Y.J., Jo, H.Y., Park, K.H., Paek, S.H., Takemura, Y., dan Bae, S., 2013, Physical Parameters to Enhance AC Magnetically Induced Heating Power of Ferrite Nanoparticles for Hyperthermia in Nanomedicine, *IEEE Transactions on Nanotechnology*, 12, 3, 314-322.

Kadi, K. El, dan Janajreh, I., 2017, Desalination by Freeze Crystallization: An Overview, *Int. J. of Thermal & Environmental Engineering*, 15, 2, 103–110.

Kailas, S. V., 2008, Imperfection in Solids, *A History of Technoscience*, 225–240.

Kareem, S.H., Ati, A.A., Shamsuddin, M., dan Lee, S.L., Nanostructural, 2015, Morphological and Magnetic Studies of PEG/$Mn_{(1-x)}Zn_{(x)}Fe_2O_4$ Nanoparticles Synthesized by Co-Precipitation, *Ceramics International*, 41, 9, 11702-11709.

Kasap, S.O., 2006, *Principles of Electronic Materials and Devices*, McGraw-Hill Education, New York.

Kefeni, K.K., Msagati, T.A.M., dan Mamba, B.B., 2017, Ferrite Nanoparticles: Synthesis, Characterisation and Applications in Electronic Device, *Materials Science and Engineering: B*, 215, 37-55.

Kesavamoorthi, R. dan Raja, C, 2016, Studies on the Properties of Manganese Substituted Nickel Ferrite Nanoparticles, *Journal of Superconductivity & Novel Magnetism*, 29, 11, 2729-2734.

Koli, R.R., Phadatare, M.R., Sinha, B.B., Sakate, D.M., Ghule, A.V., Ghodake, G.S., Deshpande, N.G. dan Fulari, V.J., 2018, Gram Bean Extract-Mediated Synthesis of Fe_3O_4 Nanoparticles for Tuning the Magneto-Structural Properties that Influence the Hyperthermia Performance, *Journal of the Taiwan Institute of Chemical Engineers*, 95, 357-368.

Koseoglu, Y., 2013, Structural, Magnetic, Electrical and Dielectric Properties of $Mn_xNi_{1-x}Fe_2O_4$ Spinel Nanoferrites Prepared by PEG Assisted Hydrothermal Method, *Ceramics International*, 39, 4, 4221-4230.

Kumar, E. R., Kumar, S., Kojima, T., dan Jayaprakash, R., 2013, Study of Magnetic Behavior of $Mn_{1-x}Ni_xFe_2O_4$ Nanoparticles, *Physics Procedia*, 49, 27–35.

Kumar, P., dan Srivastava, R., 2017, *Nanomedicine for Cancer Therapy: From Chemotherapeutic to Hyperthermia-Based Therapy*, Springer, Berlin.

Larkin, P., 2011, *Infrared and Raman Spectroscopy: Principles and Spectral Interpretation*, Elsevier, Waltham.

Lasheras, X., Insausti, M., de Muro, I.G., Garaio, E., Plazaola, F. Moros, M., Matteis, L.D., de la Fuente, J.M., dan Lezama, L., 2016, Chemical Synthesis and Magnetic Properties of Monodisperse Nickel Ferrite Nanoparticles for Biomedical Applications, *The Journal of Physical Chemistry C*, 120, 6, 3492-3500.

UNIVERSITAS
GADJAH MADA
KAJIAN STRUKTUR KRISTAL, SIFAT KEMAGNETAN DAN LAJU ABSORPSI SPESIFIK PADA NANOPARTIKEL Mn-NiFe2O4 DAN POTENSI APLIKASINYA UNTUK TERAPI HIPERTERMIA
ASEP INDRA SAPUTRA, Dr. Edi Suharyadi, M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

LeBrun, A. dan Zhu, L., 2018, Magnetic Nanoparticle Hyperthermia in Cancer Treatment: History, Mechanism, Imaging-Assisted Protocol Design, and Challenges, *Theory and Applications of Heat Transfer in Humans*, 1, 631-667.

Lee, S.W., Bae, S., Takemura, Y., Shim, I.B., Kim, T.M., Kim, J., Lee, H.J., Zurn, S., dan Kim, C.S., 2007, Self-Heating Characteristics of Cobalt Ferrite Nanoparticles for Hyperthermia Application, *Journal of Magnetism and Magnetic Materials*, 310, 2, 2868-2870.

Li, Q., Kartikowati, C.W., Horie, S., Ogi, T., Iwaki, T., dan Okuyama, K., 2017, Correlation between particle size/domain structure and magnetic properties of highly crystalline Fe3O4 nanoparticles, *Scientific Reports*, 7, 1, 9894.

Long, X.Y., Li, J.Y., Sheng, D., dan Lian, H.Z., 2017, Spinel-Type Manganese Ferrite ($MnFe_2O_4$) Microspheres: A Novel Affinity Probe for Selective and Fast Enrichment of Phosphopeptides, *Talanta*, 166, 36-45.

Maaz, K., Mumtaz, A., Hasanain, S. K., dan Bertino, M. F., 2010, Temperature dependent coercivity and magnetization of nickel ferrite nanoparticles. *Journal of Magnetism and Magnetic Materials*, 322, 15, 2199–2202.

Makovec, D., Kodre, A., Arčon, I., dan Drofenik, M., 2009, Structure of Manganese Zinc Ferrite Spinel Nanoparticles Prepared with Co-Precipitation in Reversed Microemulsions, *Journal of Nanoparticle Research*, 11, 5, 1145–1158.

Mameli, V., Musinu, A., Ardu, A., Ennas, G., Peddis, D., Niznansky, D., Sangregorio, C., Innocenti, C., Thanh, N.T.K., dan Cannas, C., 2016, Studying the Effect of Zn-Substitution on the Magnetic and Hyperthermic Properties of Cobalt Ferrite Nanoparticles, *Nanoscale*, 8, 19, 10124-10137.

Marinca, T.F., Chicinas, I., Isnard, O., Neamtu, B.G., 2016, Nanocrystalline/Nanosized Manganese Substituted Nickel Ferrites – $Ni_{1-x}Mn_xFe_2O_4$ Obtained by Ceramic-Mechanical Milling Route, *Ceramics International*, 42, 4, 4754-4763.

Mathew, D.S. and Juang, R.S., 2007, An Overview of the Structure and Magnetism of Spinel Ferrite Nanoparticles and Their Synthesis in Microemulsions, *Chemical Engineering Journal*, 129, 51-65.

Matthews, J. W., 1975, *Epitaxial Growth*: *Comprehensive Semiconductor Science and Technology*, Academic Press, New York.

Mohseni, H., Shokrollahi, H., Sharifi, I., dan Gheisari, Kh., 2012, Magnetic and Structural Studies of the Mn-Doped Mg–Zn Ferrite Nanoparticles Synthesized by the Glycine Nitrate Process, *Journal of Magnetism and Magnetic Materials*, 324, 22, 3741-3747.

Mornet, S., Vasseur, S., Grasset, F., and Duguet E., 2004, Magnetic Nanoparticle Design for Medical Diagnosis and Therapy, *Journal of Materials Chemistry*, 14, 14, 2161-2175.

UNIVERSITAS
GADJAH MADA
KAJIAN STRUKTUR KRISTAL, SIFAT KEMAGNETAN DAN LAJU ABSORPSI SPESIFIK PADA NANOPARTIKEL Mn-NiFe2O4 DAN POTENSI APLIKASINYA UNTUK TERAPI HIPERTERMIA
ASEP INDRA SAPUTRA, Dr. Edi Suharyadi, M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Morris, J. W. J., 2013, *Materials Science and Engineering: Defects in Crystal*, John Wiley & Sons, Inc., Canada.

Nadeem, K., Rahman, S., dan Mumtaz, M., 2015, Effect of Annealing on Properties of Mg Doped Zn-Ferrite Nanoparticles, *Progress in Natural Science: Materials International*, *25*, 2, 111–116.

Nikolaev, V. I., dan Shipilin, A. M., 2003, The Influence of Breaking of Exchange Bonds on The Curie Temperature, *Physics of the Solid State*, 45, 6, 1079–1080.

Nolting, W. dan Ramakanth, A., 2009, *Quantum Theory of Magnetism*, Springer-Verlag, Berlin.

Obaidat, I., Issa, B., dan Haik, Y., 2015, Magnetic Properties of Magnetic Nanoparticles for Efficient Hyperthermia, *Nanomaterials*, *5*, 1, 63–89.

Ohashi, T., 2018, Generation and Accumulation of Atomic Vacancies Due to Dislocation Movement and Pair Annihilation, *Philosophical Magazine*, *98*, 25, 2275–2295.

Panchal, N.R., 2011, Study and Characterisation of Some Hexa-Ferrite Systems, *Thesis*, Gujarat University, Ahmedabad, India.

Pande, M. dan Bhaskarwar, A.N., 2016, *Nanoparticles: Preparation and Characterization*, Momentum Press, New York.

Pavia, D.L., Lampman, G.M., Kriz, G.S., dan Vyvyan, J.A., 2015, *Introduction to Spectroscopy*, Cengage Learning, Massachusetts.

Pritula, I., dan Sangwal, K., 2014, *Fundamentals of Crystal Growth from Solutions*. Rudolph, P. (Ed), *Handbook of Crystal Growth: Bulk Crystal Growth*, Elsevier, USA.

Puri R.K. dan Babbar V.K., 1997, *Solid State Physics*, S. Chand Limited, New Delhi.

Reimer, L. dan Kohl, H., 2008, *Transmission Electron Microscopy*, Springer-Verlag, New York.

Rickard, D., 2012, *Sedimentary Pyrite*. Ashworth, P.J. (Ed.), *Developments in Sedimentology*, Elsevier, USA.

Rodger, G.E., 2011, *Descriptive Inorganic, Coordination, and Solid State of Chemistry*, Chengage Learning, United States of America.

Roduner, E., 2007, *Nanoscopic Materials: Size-Dependent Phenomena*. *Nanoscopic Materials*, RSC Publishing, United Kingdom.

Sahu, R. P., Abdalla, A. M., Fattah, A. R. A., Ghosh, S., dan Puri, I. K., 2018, *Synthesis, Characterization, and Applications of Carbon Nanotubes Functionalized with Magnetic Nanoparticles*, Balasubramanian, G. (Ed.), *Advances in Nanomaterials*, Springer International Publishing, USA.

UNIVERSITAS
GADJAH MADA
KAJIAN STRUKTUR KRISTAL, SIFAT KEMAGNETAN DAN LAJU ABSORPSI SPESIFIK PADA NANOPARTIKEL Mn-NiFe2O4 DAN POTENSI APLIKASINYA UNTUK TERAPI HIPERTERMIA
ASEP INDRA SAPUTRA, Dr. Edi Suharyadi, M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Sander, L.M., 2009, *Advanced Condensed Matter Physics*, Cambridge University Press, Cambridge.

Shan, A., Wu, X., Lu, J., Chen, C., dan Wang, R., 2015, Phase Formations and Magnetic Properties of Single Crystal Nickel Ferrite ($NiFe_2O_4$) with Different Morphologies. *Cryst. Eng. Comm.*, 17, 7, 1603–1608.

Shanmugavel, T., Raj, S.G., Kumar, G.R., Rajarajan, G., dan Saravanan, D., 2015, Cost Effective Preparation and Characterization of Nanocrystalline Nickel Ferrites ($NiFe_2O_4$) in Low Temperature Regime, *Journal of King Saud University – Science*, 27, 2, 176-181.

Sidebottom, D.L., 2012, *Fundamentals of Condensed Matter and Crystalline Physics*, Cambridge University Press, Cambridge.

Sivakumar, P., Ramesh, R., Ramanand, A., Ponnusamy, S., dan Muthamizhchelvan, C., 2011, Preparation and Properties of Nickel Ferrite ($NiFe_2O_4$) Nanoparticles via Sol–Gel Auto-Combustion Method, *Materials Research Bulletin*, 46, 12, 2204-2207.

Skomski, R., 2008, *Simple Models of Magnetism*, Oxford University Press, Oxford.

Sole, J.G., Bausa, L.E., dan Jaque, D., 2005, *An Introduction to the Optical Spectroscopy of Inorganic Solids*, John Wiley & Sons, Chichester.

Somorjai, G. A., dan Li, Y., 2010, *Introduction to Surface Chemistry and Catalysis*. Wiley, USA.

Spaldin, N.A., 2010, *Magnetic Materials: Fundamentals and Applications*, Cambridge University Press, Cambridge.

Standley, K.J., 1962, *Oxide Magnetic Materials*, The Clarendon Press, Oxford.

Stein, C.R., Bezerra, M.T.S., Holanda, G.H.A., Andre-Filho, J., dan Morais, P.C., 2018, Structural and Magnetic Properties of Cobalt Ferrite Nanoparticles Synthesized by Co-Precipitation at Increasing Temperatures, *AIP Advances*, 8, 5, 056303.

Sun, Y., Diao, Y., Wang, H., Chen, G., Zhang, M., dan Guo, M., 2017, Synthesis, Structure and Magnetic Properties of Spinel Ferrite (Ni, Cu, Co)Fe_2O_4 from Low Nickel Matte, *Ceramics International*, 43, 18.

Tang, Z. X., Sorensen, C. M., Klabunde, K. J., dan Hadjipanayis, G. C., 1991, Size-Dependent Curie Temperature in Nanoscale Mn Fe_2O_4 Particles, *Physical Review Letters*, 67, 25, 3602–3605.

Tesh, S. J., dan Scott, T. B., 2016, *Iron Nanoparticles forWater Treatment: Is the Future Free or Fixed?*, Faivre, D. (Ed.), *Iron Oxides: From Nature to Applications*, Wiley-VCH, Jerman.

Thieme, K., Avramov, I., dan Rüssel, C., 2016, The Mechanism of Deceleration of Nucleation and Crystal Growth by The Small Addition of Transition Metals to

UNIVERSITAS
GADJAH MADA
KAJIAN STRUKTUR KRISTAL, SIFAT KEMAGNETAN DAN LAJU ABSORPSI SPESIFIK PADA NANOPARTIKEL Mn-NiFe2O4 DAN POTENSI APLIKASINYA UNTUK TERAPI HIPERTERMIA
ASEP INDRA SAPUTRA, Dr. Edi Suharyadi, M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Lithium Disilicate Glasses, *Scientific Reports*, 6, 1–16.

Thomas, J., Thomas, N., Girgsdies, F., Behrens, M., Huang, X., Sudheesh, V.D., dan Sebastain, V., 2017, Synthesis of Cobalt Ferrite Nanoparticles by Constant pH Co-precipitation and their High Catalytic Activity in CO Oxidation, *New Journal of Chemistry*, 41, 15, 7356-7363.

Topkaya, R., Gungunes, H., Eryigit, S., Shirsath, S.E., Yildiz, A., dan Baykal, A., 2016, Effect of Bimetallic (Ni and Co) Substitution on Magnetic Properties of $MnFe_2O_4$ Nanoparticles, *Ceramics International*, 42, 12, 13773-13782.

Tsuda, A., dan Konduru, N. V., 2016, The Role of Natural Processes and Surface Energy of Inhaled Engineered Nanoparticles on Aggregation and Corona Formation, *NanoImpact*, *2*, 6, 38–44.

Valenzuela, R., 1994, *Magnetic Ceramics*, Cambridge University Press, Cambridge.

Vamvakidis, K., Katsikini, M., Sakellari, D., Paloura, E. C., Kalogirou, O., dan Dendrinou-Samara, C., 2014, Reducing the Inversion Degree of $MnFe_2O_4$ Nanoparticles Through Synthesis to Enhance Magnetization: Evaluation of Their 1 H NMR Relaxation and Heating Efficiency, *Dalton Trans.*, 43, 33, 12754–12765

Velmurugan, K., Sangli, V., dan Venkatachalapathy, K., 2010, Synthesis of Nickel Zinc Iron Nanoparticles by Coprecipitation Technique, *Particle Characterization*, 13, 3, 299–303.

Watt, I.M., 1997, *The Principles and Practice of Electron Microscopy*, Cambridge University Press, Cambridge.

Weidenthaler, C., 2011, Pitfalls in the Characterization of Nanoporous and Nanosized Materials, *Nanoscale*, 3, 3, 792–810.

Xavier, S., Thankachan, S., Jacob, B.P., dan Mohammed, E.M., 2013, Effect of Samarium Substitution on the Structural and Magnetic Properties of Nanocrystalline Cobalt Ferrite, *Journal of Nanoscience*, 1-7.

Yang, H., Zhang, C., Shi, X., Hu, H., Du, X., Fang, Y., Ma, Y., Wu, H., dan Yang, S., 2010, Water-Soluble Superparamagnetic Manganese Ferrite Nanoparticles for Magnetic Resonance Imaging, *Biomaterials*, 31, 13, 3667-3673.

Zak, A. K., Majid, W. H. A., Abrishami, M. E., dan Yousefi, R., 2011, X-ray Analysis of ZnO Nanoparticles by Williamson-Hall and Size-Strain Plot Methods. *Solid State Sciences*, 13, 1, 251–256.

Zeisberger, M., Dutz, S., Muller, R., Hergt, R., Matoussevitch, N., dan Bonnemann, H., 2007, Metallic Cobalt Nanoparticles for Heating Applications, *Journal of Magnetism and Magnetic Materials*, 311, 1, 224-227.

Zhao, Y., dan Zhang, J., 2008, Microstrain and Grain-Size Analysis from Diffraction Peak Width and Graphical Derivation of High-Pressure

UNIVERSITAS
GADJAH MADA
KAJIAN STRUKTUR KRISTAL, SIFAT KEMAGNETAN DAN LAJU ABSORPSI SPESIFIK PADA NANOPARTIKEL Mn-NiFe2O4 DAN POTENSI APLIKASINYA UNTUK TERAPI HIPERTERMIA
ASEP INDRA SAPUTRA, Dr. Edi Suharyadi, M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Thermomechanics. *Journal of Applied Crystallography*, 41, 6, 1095–1108.

Zhong, W. H., Sun, C. Q., Li, S., Bai, H. L., dan Jiang, E. Y., 2005, Impact of Bond-Order Loss on Surface and Nanosolid Magnetism. *Acta Materialia*, 53, 11, 3207–3214.

Zipare, K., Dhumal, J., Bandgar, S., Mathe, V., dan Shahane, G., 2015, Superparamagnetic Manganese Ferrite Nanoparticles: Synthesis and magnetic Properties, *Journal of Nanoscience and Nanoengineering*, 1, 3, 178-182.