

## References

- Abbas, S.M., Dixit, A.K., Chatterjee, R. and T.C. Goel, T.C., (2005), "Complex permittivity and microwave absorption properties of BaTiO<sub>3</sub>-polyaniline composite", *Materials Science and Engineering B*, Vol. 123, pp. 167-171, 2005
- Abbas, S.M., Dixit, A.K., Chatterjee, R. and Goel, T.C., (2007), "Complex permittivity, complex permeability and microwave absorption properties of ferrite-polymer composites", *Journal of Magnetism and Magnetic Materials*, Vol. 309, pp. 20-24, 2007
- Abdullah, M.H. and Yusoff, A.N., (1997), "Frequency dependence of the complex impedances and dielectric behaviour of some Mg-Zn ferrites" *Journal of Materials Science*, Vol. 32, pp. 5817-5823, 1997
- Ahmad, T., Ganguly, A., Ahmed, J., Ganguli, A.K., Abdullah, O. and Alhartomy, A., (2011), "Nanorods of transition metal oxalates: A versatile route to the oxide nanoparticles", *Arabian Journal of Chemistry*, Vol. 4, pp. 125-134, 2011
- Ahmed, S.R. and Kofinas, P., (2002), "Controlled room temperature synthesis of CoFe<sub>2</sub>O<sub>4</sub> nanoparticles through a block copolymer nanoreactor route", *Macromolecules*, Vol. 35, pp. 3338-3341, 2002
- Ainsworth, S.J., (2004), "Nanotech IP", *Chemical Engineering News*, Vol. 82, No. 15, pp. 17-22, 2004
- Alvarez, G., Montiel, H., Castellanos, M. and Ulloa, R.Z., (2011), "Microwave absorption measurements in the complex perovskite Pb(Fe<sub>0.5</sub>Ta<sub>0.5</sub>)O<sub>3</sub>: detection of short-range orderly regions", *Materials Chemistry and Physics*, Vol. 130, No. 1, pp. 587-590, 2011
- Alexandrou, I., Sano, N., Burrows, A., Meyer, R.R., Wang, H., Kirkland, A.I., Kiely, C.J. and Amaratunga, G.A.J., (2013), "Structural investigation of MoS<sub>2</sub> core-shell nanoparticles formed by an arc discharge in water", *Nanotechnology*, Vol. 14, pp. 913-917, 2013
- Amiri, G.R., Yousefi, M.H., Abolhassani, M.R., Monouchehri, S., Keshavarz, M.H. and Fatahian, S., (2011), "Magnetic properties and microwave absorption in Ni-Zn and Mn-Zn ferrite nanoparticles synthesized by low-temperature solid-state reaction", *Journal of Magnetism and Magnetic Materials*, Vol. 323, pp. 730-734, 2011
- Ando, Y. and Zhao, X., (2006), "Synthesis of carbon nanotubes by arc-discharge method", *New Diamond and Frontier Carbon Technology*, Vol. 16, No. 3, pp. 123-137, 2006
- Arya, P.R., Jha, P., Subbanna, G.N. and Gangulia, A.K., (2003), "Polymeric citrate precursor route to the synthesis of nano-sized barium lead titanates", *Materials Research Bulletin*, Vol. 38, pp. 617-628, 2003
- Augustein, C.O., Prabhakaran, D. and Srinivasan, L.K., (1993), "Fabrication and characterization of NiCr<sub>2</sub>O<sub>4</sub> spinel", *Journal of Materials Science Letters*, Vol. 12, No. 6, pp. 383-386, 1993
- Azhagushanmugam, S.J., Suriyanarayanan, N. and Jayaprakash, R., (2013), "Synthesis and characterization of nano crystalline Ni<sub>(0.6)</sub>Zn<sub>(0.4)</sub>Fe<sub>2</sub>O<sub>4</sub> spinel ferrite magnetic materials", *Physics Procedia*, Vol. 49, pp. 44-48, 2013
- Banik, S., Bandyopadhyay, S. and Ganguly, S., (2003), "Bio-effects of microwave-a brief review", *Bio-resource Technology*, Vol. 87, pp. 155-159, 2003
- Bellamy, L.J., (1975), *The Infrared Spectra of Complex Molecules*, Vol. 1, 3<sup>rd</sup> Edition, John Wiley and Sons Inc., New York, USA
- Barlow, F. W., (1993), *Rubber Compounding; Principle, Materials and Techniques*, Marcel Dekker Inc., New York, USA
- Becker, J., Hald, P., Bremholm, M., Pedersen, J.S., Chevallier, J., Iversen, S.B. and Iversen, B.B., (2008), "Critical size of crystalline ZrO<sub>2</sub> nanoparticles synthesized in near- and supercritical water and supercritical isopropyl alcohol", *ACS Nano*, Vol. 2, pp. 1058-1068, 2008
- Bellamy, L.J., (1986), *The Infrared Spectra of Complex Molecules*, Vol-1, 3<sup>rd</sup> Edition, Chapman & Hall, New York
- Bhattacharjee, S. and Panday, D., (2010), "Stability of the various crystallographic phases of the multiferroic BiFeO<sub>3</sub>-PbTiO<sub>3</sub> system as a function of compositions and temperature," *Journal of Applied Physics*, Vol. 107, No. 12, pp. 124112:1-11, 2010

- Bi, X. X., Ganguly, B., Huffman, G.P., Huggins, F.E., Endo, M. and Eklund, P.C., (1993), "Nanocrystalline  $\alpha$ -Fe, Fe<sub>3</sub>C, and Fe<sub>7</sub>C<sub>3</sub> produced by CO<sub>2</sub> laser pyrolysis", *Journal of Materials Research*, Vol. 8, No. 7, pp. 1666-1674, 1993
- Bianco L.D., Boscherini, F., Fiorini, A.L., Tamisari, M., Spizzo, F., Antisari, M.V. and Piscopiello, E., (2008), "Exchange bias and structural disorder in the nanogranular Ni/NiO system produced by ball milling and hydrogen reduction", *Physical Review B*, Vol. 77, pp. 094408:1-12, 2008
- Black, R.C. and Wellstood, F.C., (2006), "Measurements of Magnetism and Magnetic Properties of Matter", *The SQUID Handbook: Applications of SQUIDS and SQUID Systems*, Vol. II, pp. 391 - 440, 2001
- Bowen, C.R. and Derby, B., (1997), "Self-propagating high-temperature synthesis of ceramic materials", *British Ceramics Transactions*, Vol. 96, No. 1, pp. 25-31, 1997
- Bragg, W.L., (1913), "The diffraction of short electromagnetic waves by a crystal", *Proceedings of Cambridge Philosophical Society*, Vol. XVII, No. 1, pp. 43-57, 1913
- Bragg, W. H., (1915), "The structure of the spinel group of crystals", *Philosophical Magazine*, Vol. 30 No. 176, pp. 305-315, 1915
- Brain, S., (1978), *Infrared Spectroscopy: A Systematic Approach*, CRC Press, New York, USA
- Braun, P.B., (1957) "The crystal structures of a new group of ferromagnetic compounds", *Phillips Research Report*, Vol. 12, pp. 491-548, 1957
- Bregar, V.B., (2004), "Advantages of ferromagnetic nanoparticle composites in microwave absorbers", *IEEE Transactions on Magnetics*, Vol. 40, No. 3, pp. 1679-1684, 2004
- Brinker, C.J., Clark, D.E. and Ulrich, D.R., (1994), "Better ceramics through chemistry I" *Materials Research Society Symposia Proceedings*, Vol. 32, North Holland, New York, Amsterdam, Oxford, USA
- Bronwell, A.B. and Beam, R.E., (1947), *Theory and Applications of Microwaves*, McGraw-Hill Book Company, Inc., New York, USA
- Bueno, A.R., Gregori, M.L. and Nobrega, M.C.S., (2008), "Microwave-absorbing properties of Ni<sub>0.50-x</sub>Zn<sub>0.50-x</sub>Me<sub>2x</sub>Fe<sub>2</sub>O<sub>4</sub> (Me= Cu, Mn, Mg) ferrite-wax composite in X-band frequencies", *Journal of Magnetism and Magnetic Materials*, Vol. 320, pp. 864-870, 2008
- Caffarena, V.R., Ogasawara, T., Pinho, M.S., and Capitaneo, J.L., (2007), "Synthesis and characterization of nanocrystalline Ba<sub>3</sub>Co<sub>0.9</sub>Cu<sub>1.1</sub>Fe<sub>24</sub>O<sub>41</sub> powder and its application in the reduction of radar cross-section", *Materials Science-Poland*, Vol. 25, No. 3, pp. 875-884, 2007
- Cao, J., Fu, W., Yang, H., Yu, Q., Zhang, Y., Liu, S., Sun, P., Zhou, X., Leng, Y., Wang, S., Liu, B. and Zou, G., (2009), "Large-scale synthesis and microwave absorption enhancement of actinomorphic tubular ZnO/CoFe<sub>2</sub>O<sub>4</sub> nanocomposites", *Journal of Physical chemistry B*, Vol. 113, No.14, pp. 4642-4647, 2009
- Capek, I., (2006), "Nanocomposite Structures and Dispersions", *Studies in Interface Science*, Vol. 23, Elsevier Science, Amsterdam, The Netherlands
- Catalan, G. and Scott, J.F., (2009), "Physics and applications of Bismuth ferrite", *Advanced Materials*, Vol. 21, pp. 2463-2485, 2009
- Cernea, M., (2005), "Sol-gel synthesis and characterization of BaTiO<sub>3</sub> powder", *Journal of Optoelectronics and Advanced Materials*, Vol. 7 (6), pp. 3015 - 3022, 2005
- Chaudhari, N.D., Kambale, R.C., Bhosale, D.N., Suryavanshi, S.S. and Sawant, S.R., (2010), "Thermal hysteresis and domain states in Ni-Zn ferrites synthesized by oxalate precursor method", *Journal of Magnetism and Magnetic Materials*, Vol. 322, pp. 1999-2005, 2010
- Che, R.C., Zhi, C.Y., Liang, C.Y. and Zhou, X. G., (2006), "Fabrication and microwave absorption of carbon nanotubes/CoFe<sub>2</sub>O<sub>4</sub> spinel nanocomposite", *Applied Physics Letters*, Vol. 88, pp. 033105:1-3, 2006
- Chen, X., Wang, G., Duan, Y. and Liu, S., (2007) "Microwave absorption properties of barium titanate/epoxide resin composites", *Journal of Physics D: Applied Physics*, Vol. 40, pp. 1827, 2007
- Chen, X., Wang, G., Duan, Y. and Liu, S., (2008) "Electromagnetic characteristics of barium titanate/epoxide resin composites in X and Ku bands", *Journal of Alloys and Compounds*, Vol. 453, pp. 433-436, 2008
- Chen, D.H and He, X.R., (2001), "Synthesis of nickel ferrite nanoparticles by sol-gel method", *Materials Research Bulletin*, Vol. 36, pp. 1369-1377, 2001
- Chen, J.C. and Wua, J.M., (2007), "Dielectric properties and AC conductivities of dense single-phased BiFeO<sub>3</sub> ceramics", *Applied Physics Letters*, Vol. 91 pp. 182903, 2007
- Chen, X., Wang, G., Duan, Y., and Liu, S., (2007), "Microwave absorption properties of barium titanate/epoxide resin composites," *Journal of Physics D: Applied Physics*, Vol. 40, No. 6, pp. 1827-1830, 2007
- Chhor, K., Bocquet, J.F. and Pommier, C., (1995), "Syntheses of submicron magnesium oxide powders", *Materials Chemistry and Physics*, Vol. 40, pp. 63-68, 1995

- Chin, W.S., and Lee, D.G., (2007), "Development of the composite RAS (radar absorbing structure) for the X-band frequency range", *Composite Structures*, Vol. 77, pp. 457-465, 2007
- Chiang, J.C. and Mac Diramid, A.G., (1986), "Polyaniline: Protonic acid doping of the emeraldine form to the metallic regime", *Synthetic Materials*, Vol. 13, pp. 193-205, 1986
- Cohen, R. E., (1992), "Origin of ferroelectricity in perovskite oxides", *Nature*, Vol. 358, pp. 136-138, 1992
- Connolly, T.M. and Luoma, E.J., (1977), "Microwave Absorbers" *US Patent No. 4038660*, 1977
- Costa, A.C.F.M., Tortella, E., Morelli, M.R. and Kiminami, R.H.G.A., (2003), "Synthesis, microstructure and magnetic properties of Ni-Zn ferrites", *Journal of Magnetism and Magnetic Materials*, Vol. 256, pp. 174-182, 2003
- Cote, L.J., Teja, A.S., Wilkinson, A.P. and Zhang, Z.J., (2003), "Continuous hydrothermal synthesis of  $\text{CoFe}_2\text{O}_4$  nanoparticles", *Fluid Phase Equilibria*, Vol. 210, pp. 307-317, 2003
- Crispin J., and Siegel, K.M., (1968), *Methods of Radar Cross-Section Analysis*, Academic Press, New York
- Cullity, B.D., (1956), *Elements of X-Ray Diffraction*, Addison-Wesley Publishing Company, Inc., Massachusetts, USA
- Daigle, A.P., Geiler, M., Geiler, A., Dupre, E., Modest, J., Chen, Y., Vittoria, C. and Harris, V.G., (2012), "Permeability spectra of  $\text{Co}_2\text{Z}$  hexaferrite compacts produced via a modified aqueous co-precipitation technique", *Journal of Magnetism and Magnetic Materials*, Vol. 324, pp. 3719-3722, 2012
- Dallenbach W. and Kleinstaub W., (1935) "Reflection and Absorption of Decimeter Waves by Plane Dielectric Layers," *Hochfrequenztech & Elektroakust*, Vol. 51, pp. 152-156, 1935
- Deevi, S. C., (1991), "Structure of the combustion wave in the combustion synthesis of titanium carbides" *Journal of Materials Science*, Vol. 26, No. 10, pp. 2662-2670, 1991
- Delaunay, J.J., Hayashi, T., Tomita, M., Hirono, S. and Umemura, S., (1997), "CoPt-C nanogranular magnetic thin films", *Applied Physics Letters*, Vol. 71, No. 23, pp. 3427-3429, 1997
- Diandra, L.L. and Reuben, D.R., (1996), "Magnetic properties of nanostructured materials", *Chemistry of Materials*, Vol. 8, No. 8, pp. 1770-1783, 1996
- Dias, J.C., Martin, I.M., and Rezende, M.C., (2012), "Reflectivity of hybrid microwave absorber on NiZn ferrite and carbon black", *Journal of Aerospace Technology Management*, Vol. 4, No. 3, pp. 267-274, 2012
- Dosoudil, R., Usakova, M., Franek, J., Slama, J. and Olah, V., (2006), "RF electromagnetic wave absorbing properties of ferrite polymer composite materials", *Journal of Magnetism and Magnetic Materials*, Vol. 304, pp. e755-e757, 2006
- Dosoudil, R., Usakova, M., Franek, J., Gruskova, A. and Slama, J., (2008), "Dispersion of complex permeability and EM-wave absorbing characteristics of polymer-based composites with dual ferrite filler", *Journal of Magnetism and Magnetic Materials*, Vol. 320, pp. e849-e852, 2008
- Dormann, J. L. and Nogues, M., (1990), "Magnetic structures in substituted ferrites", *Journal of Physics: Condensed Matter*, Vol. 2, pp. 1233-1237, 1990
- Dzunuzovic, A.S., Ilic, N.I., Petrovic, M.M.V, Bobic, J.D., Stojadinovic, B., Mitrovic, Z.D. and Stojanovic, B.D., (2015), "Structure and properties of Ni-Zn ferrite obtained by auto-combustion method" *Journal of Magnetism and Magnetic Materials*, Vol. 374, pp. 245-251, 2015
- Emerson, W.H., (1973), "Electromagnetic wave absorbers and anechoic chambers through the years", *IEEE Transaction of Antennas and Propagation*, Vol. AP-21, pp. 484-490, 1973
- Eisenmenger, J. and Schuller, I.K., (2003), "Magnetic nanostructures: overcoming thermal fluctuations", *Nature Materials*, Vol. 2, pp. 437-438, 2003
- Ertug, B., (2013) "The overview of the electrical properties of Barium Titanate," *American Journal of Engineering Research*, Vol. 2, No. 8, pp. 1-7, 2013
- Emersion and Cuming, Electromagnetic principle and applications, [www.eccosorb.ru/technical-notes](http://www.eccosorb.ru/technical-notes)  
Technical Reference from Emmerson Cumming
- Fang, X., Shashurin, A. and Keidar, M., (2015), "Role of substrate temperature at graphene synthesis in an arc discharge", *Journal of Applied Physics*, Vol. 118, pp. 103304:1-6, 2015
- Fawzi, A.S., Sheikh, A.D. and Mathe, V.L., (2010), "Structural, dielectric properties and AC conductivity of  $\text{Ni}_{(1-x)}\text{Zn}_x\text{Fe}_2\text{O}_4$  spinel ferrites", *Journal of Alloys and Compounds*, Vol. 502, pp. 231-237, 2010
- Ferrari, A.C., (2007), "Raman spectroscopy of graphene and graphite: disorder, electron-phonon coupling, doping and non-adiabatic effects", *Solid State Communications*, Vol. 143, pp. 47-57, 2007
- Feng, Y.B., Qiu, T., and Shen, C.Y., (2007), "Absorbing properties and structural design of microwave absorbers based on carbonyl iron and barium ferrite", *Journal of Magnetism and Magnetic Materials*, Vol. 318, pp. 8-13, 2007
- Fischer, P., Polomska, M., Sosnowska, I. and Szymanskig, M., (1980), "Temperature dependence of the crystal and magnetic structures of  $\text{BiFeO}_3$ ", *Journal of Physics C: Solid State Physics*, Vol. 13, No. 10, pp. 1931-1940, 1980

- Folgueras, L.C. and Rezende, M.C., (2008), "Multilayer radar absorbing materials processing by using polymeric nonwoven and conducting polymer", *Materials Research*, Vol. 11, No. 3, pp. 245-249, 2008
- Folarin, O.M., Sadiku, E.R. and Maity, A., (2011), "Polymer-noble metal nanocomposites: Review", *International Journal of the Physical Sciences*, Vol. 6, No. 21, pp. 4869-4882, 2011
- Foner, S., (1959), "Versatile and sensitive vibrating sample magnetometer", *The Review of Scientific Instruments*, Vol. 30, No. 7, pp. 548-557, 1959
- Franchitto, M., Orlando, A. J. F., Faez, R., Rezende, M. C. and Martin, I. M., (2007), "Measurements of reflectivity and complex permittivities of radar absorbing materials based on conducting polymers", *Progress in Electromagnetics Research Symposium*, Beijing, China, pp. 669-672, 2007
- Freitas, V.F., Dias, G.S., Protzek, O.A., Montanher, D.Z., Catellani, I.B., Silva, D.M., Cotica, L.F., Santos, I.A., (2013), "Structural phase relations in perovskite-structured BiFeO<sub>3</sub>-based multiferroic compounds", *Journal of Advanced Ceramics*, Vol. 2, No. 2, pp. 103-111, 2013
- Fu, C., Huo, M., Cai, W. and Deng, X., (2012), "Preparation of bismuth ferrite nanopowders at different calcination temperatures", *Journal of Ceramic Processing Research*, Vol. 13, No. 5, pp. 561-564, 2012
- Gama, A.M. and Rezende, M.C., (2013), "Complex permeability and permittivity variation of radar absorbing materials based on MnZn ferrite in microwave frequencies", *Materials Research*, Vol. 16, No. 5, pp. 997-1001, 2013
- Gass, J., Poddar, P., Almand, J., Srinath, S. and Srikanth, H., (2006), "Superparamagnetic polymer nanocomposites with uniform Fe<sub>3</sub>O<sub>4</sub> nanoparticle dispersions", *Advanced Functional Materials*, Vol. 16, pp. 71-75, 2006
- Gaylor, K., (1989), "Radar Absorbing Materials - Mechanism and Materials" DSTO Materials Research Laboratory, Technical Report No. MRL-TR-89-1, Victoria, Australia, 1989.
- Ghasemi, A., Saatchi, A., Salehi, M., Hossienpour, A., Morisako, A. and Liu, X., (2006), "Influence of matching thickness on the absorption properties of doped barium ferrites at microwave frequencies", *Physics Status Solidi A*, Vol. 203(2), pp. 358-365, 2006
- Girona, M.M., Roig, A., Molins, E. and Llibre, J., (2003), "Sol-Gel route to direct formation of silica aerogel micro particles using supercritical solvents", *Journal of Sol-Gel Science and Technology*, Vol. 26, No. 1, pp. 645-649, 2003
- Goldman, A., (1990), *Modern Ferrite Technology*, Van Nostrand Reinhold, New York, USA 1990
- Gottardi, V., (1982), "Glasses of the same composition but different properties", *Journal of Non Crystalline Solids*, Vol. 49, pp. 461-469, 1982
- Grabowska, E., (2016), "Selected perovskite oxides: characterization, preparation and photocatalytic properties-a review", *Applied Catalysis B: Environmental*, Vol. 186, pp. 97-126, 2016
- Griffiths, D.J., (1999), *Introduction to Electrodynamics*, 3<sup>rd</sup> Edition, Pearson Prentice Hall, New Jersey, USA
- Grunberger, W., Springmann, B., Brusberg, M., Schmidt, M., and Janke, R., (1991), "Rubber bonded ferrite layer as a microwave resonant absorber in a frequency range from 3 up to 16 GHz", *Journal of Magnetism and Magnetic Materials*, Vol. 101, pp. 173-174, 1991
- Gupta, J.P., (1988), "Microwave radiation hazards from radars and other high power microwave generators", *Defence Science Journal*, Vol. 38, No. 3, pp. 287-292, 1988
- Gupta, K.K., Abbas, S.M., Goswami, T.H., and Abhyankar, A.C., (2014), "Microwave absorption in X and Ku band frequency of cotton fabric coated with Ni-Zn ferrite and carbon formulation in polyurethane matrix", *Journal of Magnetism and Magnetic Materials*, Vol. 362, pp. 216-225, 2014
- Gupta, V., Patra, M.K., Shukla, A., Saini, L., Songara, S., Jani, R.K., Vadera, S.R., and Kumar, N., (2014), "Synthesis and investigations on microwave absorption properties of core-shell FeCo(C) alloy nanoparticles", *Science of Advanced Materials*, Vol. 6, pp. 1196-1202, 2014
- Gupta, V., Patra, M.K., Shukla, A., Saini, L., Songara, S., Jani, R.K., Vadera, S.R. and Kumar, N., (2012), "Synthesis of core-shell iron nanoparticles from decomposition of Fe-Sn nanocomposite and studies on their microwave absorption properties", *Journal of Nanoparticle Research*, Vol. 14, pp. 1271:1-10, 2012
- Gupta, B.R., (1998), *Rubber Processing on a Two Roll Mill*, Allied Publishers Limited, New Delhi
- Halpern, O., Johnson, M.H.J. and Wright, R.W., (1960), "Isotropic Absorbing Layers", *US Patent No. 2951247*, 1960
- Hanemann, T., and Szabo, D.V., (2010), "Polymer-nanoparticle composites: from synthesis to modern applications", *Materials*, Vol. 3, pp. 3468-3517, 2010
- Han, Z., Li, D., Wang, H., Liu, X.G., Li, J., Geng, D.Y., and Zhang, Z.D., (2009) "Broadband electromagnetic-wave absorption by FeCo/C nanocapsules", *Applied Physics Letters*, Vol. 95, pp. 023114:1-3, 2009
- Han, D., Song, G., Liu, and Yan, H., (2015), "Core-shell-structured nickel ferrite/onion-like carbon nanocapsules: an anode material with enhanced electrochemical performance for lithium-ion batteries", *RSC Advances*, Vol. 5, pp. 42875-42880, 2015

- Hayashi, H., and Hakuta, Y., (2010), "Hydrothermal synthesis of metal oxide nanoparticles in supercritical water", *Materials*, Vol. 3, pp. 3794-3817, 2010
- Heilmann, A., (2003), *Polymer Films and Embedded Metal Nanoparticles*, Springer, New York, USA
- Hench, L.L., and West, J.K., (1989), *Principles of Electronic Ceramics*, A Wiley-Inter Science Publication, Singapore, 1989
- Hill M., (2013), "Enhanced hexagonal ferrite material and methods of preparation and use thereof", *U.S. Patent No. US 8,524,190 B2*, 2013
- Hsiang, H.I., and Yao, R.Q., (2007), "Hexagonal ferrite powder synthesis using chemical co-precipitation", *Materials Chemistry and Physics*, Vol. 104, pp. 1-4, 2007
- Hu, Y., Fei, L., Zhang, Y., Yuan, J., Wang, Y., and Gu, H., (2011), "Synthesis of bismuth ferrite nanoparticles via a wet chemical route at low temperature", *Journal of Nanomaterials*, Vol. 2011, pp. 1-6, 2011
- Huang, X., J. Zhang, M. Lai, and T. Sang, (2015), "Preparation and microwave absorption mechanisms of the NiZn ferrite nanofibers", *Journal of Alloys and Compounds*, Vol. 627, pp. 367-375, 2015
- Huang, F., Wang, Z., Lu, X., Zhang, J., Min, K., Lin, W., Ti, R., Xu, T., He, J., Yue, C., and Zhu, J., (2013), "Peculiar magnetism of BiFeO<sub>3</sub> nanoparticles with size approaching the period of the spiral spin structure", *Scientific Reports*, Vol. 3:2907, 2012
- Islam, R., Rahman, M.O., Hakim, M.A., Saha, D.K., Saiduzzaman, Noor, S., and Mamun, M.A., (2012), "Effect of sintering temperature on structural and magnetic properties of Ni<sub>0.55</sub>Zn<sub>0.45</sub>Fe<sub>2</sub>O<sub>4</sub> ferrites", *Materials Sciences and Applications*, Vol. 3, pp. 326-331, 2012
- Ivanov, V.Y., Travkin, V.D., Mukhin, A.A., Lebedev, S.P., Volkov, A.A., Pimenov, A., Loidl, A., Balbashov, A.M., and Mozhaev, A.V., (1998), "Magnetic, dielectric, and transport properties of La<sub>1-x</sub>Sr<sub>x</sub>MnO<sub>3</sub> at submillimeter wavelengths", *Journal of Applied Physics*, Vol. 83, pp. 7180-7182
- Jaffe, B., Cook, W.R., and Jaffe, H., (1971), *Piezoelectric Ceramics*, Academic Press, New York, USA
- Jain, R.K., Dubey, A., Soni, A., Gupta, S.K., and Shami, T.C., (2013), "Barium titanate flakes based composites for microwave absorbing applications", *Processing and Application of Ceramics*, Vol. 7, No. 4, pp. 189-193, 2013
- Jalaly, M., Enayati, M.H., Kameli, P., and Karimzadeh, F., (2010) "Effect of composition on structural and magnetic properties of nanocrystalline ball milled Ni<sub>1-x</sub>Zn<sub>x</sub>Fe<sub>2</sub>O<sub>4</sub> Ferrites" *Physica B: Condensed Matter*, Vol. 405, No. 2, pp. 507-512, 2010
- Jarvis, J.B., Janezic, M.D., Riddle, B.F., Johnk, R.T., Kabos, P., Holloway, C.L., Geyer, R.G., and Grosvenor, C.A., (2005) "Measuring the permittivity and permeability of lossy materials: Liquids, metals, building materials and negative-index materials", *National Institute of Standards and Technology (NIST) Technical Note*, No. 1536, USA, 2005
- Jaynes, E.T., (1953), *Ferroelectricity*, Princeton University Press, London
- Jeong, H.K., Lee, Y.P., Lahaye, R.J.W.E., Park, M.H., An, K.H., Kim, I.J., Yang, C.W., Park, C.Y., Ruoff, R.S., and Lee, Y.H., (2008), "Evidence of graphitic AB stacking order of graphite oxides", *Journal of American Chemical Society*, Vol. 130, No. 4, pp. 1362-1366, 2008
- Ji, J.Y., Shih, P.H., Chan, T.S., Ma, Y.R., and Wu, S.Y., (2015), "Magnetic properties of cluster glassy Ni/NiO core-shell nanoparticles: an investigation of their static and dynamic magnetization", *Nanoscale Research Letters*, Vol. 10, pp. 243-255, 2015
- Jia, D.C., Xu, J.H., Ke, H., Wang, W., and Zhou, Y., (2009), "Structure and multiferroic properties of BiFeO<sub>3</sub> powders", *Journal of European Ceramic Society*, Vol. 29, pp. 3099-3103, 2009
- Jiang, J.J., Li, D., Li, S.J., Wang, Z.H., Wang, Y., He, J., Liu, W., and Zhang, Z.D., (2015), "Electromagnetic wave absorption and dielectric modulation of metallic perovskite lanthanum nickel oxide", *RSC Advances*, Vol. 5, pp. 14584-14591, 2015
- Jiang, J.J., Li, D., Geng, D.Y., An, J., He, J., Liu, W., and Zhang, Z.D., (2014), "Microwave absorption properties of core double-shell FeCo/C/BaTiO<sub>3</sub> nanocomposites", *Nanoscale*, 2014, Vol. 6, pp. 3967-3971, 2014
- Jing, L., Wang, G., Duan, Y., and Jiang, Y., (2009), "Synthesis and electromagnetic characteristics of the flake-shaped barium titanate powder", *Journal of Alloys and Compounds*, Vol. 475, pp. 862-868, 2009
- Jung, H.O., Kying, S.O., Chun, G.K., and Chang, S.H., (2004), "Design of radar absorbing structures using glass/epoxy composite containing carbon black in X-band frequency ranges", *Composites: Part B*, Vol. 35, pp. 49-56, 2004
- Kagotani, T., Fujiwara, D., Sugimoto, S., Inomata, K., and Hona, M., (2004), "Enhancement of GHz electromagnetic wave absorption characteristics in aligned M-type barium ferrite Ba<sub>1-x</sub>La<sub>x</sub>Zn<sub>x</sub>Fe<sub>12-x-y</sub>(Me<sub>0.5</sub>Mn<sub>0.5</sub>)<sub>y</sub>O<sub>19</sub> (x = 0.0-0.5; y = 1.0-3.0; Me: Zr, Sn) by metal substitution, *Journal of Magnetism and Magnetic Materials*, Vol. 272-276, pp. e1813-e1815, 2004

- Kakirde, A., Sinha, B., and Sinha, S.N., (2008), "Development and characterization of nickel-zinc spinel ferrite for microwave absorption at 2-4 GHz", *Bulletin of Materials Science*, Vol. 31, No. 5, pp. 767-770, 2008
- Kakuk, G., Csanady, A., Trif, L., Sajo, I., Papp, K., Sztaniszlav, A., and Kalman, E., (2008), "The influence of nanomilling on the formation of Ba-hexaferrite", *Reviews on Advanced Materials Sciences*, Vol. 18, pp. 317-321, 2008
- Kandpal, N.D., Sah., N., Loshali, R., Joshi, R., and Prasad, J., (2014), "Co-precipitation method of synthesis and characterization of iron oxide nanoparticles", *Journal of Scientific and Industrial Research*, Vol. 73, pp. 87-90, 2014
- Kang, Y.Q., Cao, M.S., Yuan, J., and Shi, X.L., (2009), "Microwave absorption properties of multiferroic BiFeO<sub>3</sub> nanoparticles", *Materials Letters*, Vol. 63, pp. 1344-1346, 2009
- Khamoushi, K. (2014), "Ph.D. Thesis: Characterization and dielectric properties of microwave rare earth ceramics materials for telecommunications", Tampere University of Technology, Tampere, Finland
- Khollam, Y.B., Deshpande, S.B., Potdar, H.S., Bhoraskar, S.V., Sainkar, S.R. and Date, S.K., (2005), "Simple oxalate precursor route for the preparation of barium-strontium titanate: Ba<sub>1-x</sub>Sr<sub>x</sub>TiO<sub>3</sub> powders", *Materials Characterization*, Vol. 54, pp. 63 - 74, 2005
- Kikuchi, T., Nakamura, T., Yamasaki, T., Nakanishi, M., Fujii, T., Takada, J., and Ikeda, Y., (2011), "Synthesis of single-phase Sr<sub>3</sub>Co<sub>2</sub>Fe<sub>24</sub>O<sub>41</sub> Z-type ferrite by polymerizable complex method", *Materials Research Bulletin*, Vol. 46, pp. 1085-1087, 2011
- Kim, Y., and Kim, S., (2010) "Magnetic and microwave absorbing properties of Ti and Co substituted M-hexaferrites in Ka-band frequencies (26.5 - 40 GHz)", *Journal of Electro-ceramics*, Vol. 24, No. 4, pp. 314-318, 2010
- Kim, S.S., Jo, S.B., Gueon, K.I., Choi, K.K., Kim, J.M., and Churn, K.S., (1991), "Complex permeability and permittivity and microwave absorption of ferrite-rubber composite in X-band Frequencies", *IEEE Transactions on Magnetics*, Vol. 27, No. 6, pp. 5462-5464, 1991
- Kim, S.S., Han, D.H., and Cho, S.B., (1994), "Microwave absorbing properties of sintered Ni -Zn ferrite", *IEEE Transaction on Magnetics*, Vol. 30, No. 6, pp. 4554-4556, 1994
- Kim, S.S., Kim, S.T., Ahn, J.M., and Kim, K.H., (2004), "Magnetic and microwave absorbing properties of Co-Fe thin films plated on hollow ceramic microspheres of low density", *Journal of Magnetism and Magnetic Materials*, Vol. 271, No. 1, pp. 39-45, 2004
- Kitagawa Y., Hiraoka, Y., Honda, T., Ishikura, T., Nakamura, H., and Kimura, T., (2010), "Low-field magneto-electric effect at room temperature", *Nature Materials*, Vol. 9, 2010
- Kittel, C., (2004), *Introduction to Solid State Physics*, 7<sup>th</sup> Edition, Wiley India Pvt. Ltd., New Delhi, India
- Kleiner, R., Koelle, D., Ludwig, F., and Clarke, J., (2004), "Superconducting Quantum Interference Devices: state of the art and applications", *Proceeding of the IEEE*, Vol. 92, No. 10, pp. 1534-1548, 2004
- Knott, E.F., Shatter, J.F. and Tuley, M.T., (1993), *Radar Cross Section*, 2nd Edition, Artech House
- Ko, S.K., Won, C.W. and Shon, I.J., (1997), "Synthesis of Cr<sub>3</sub>C<sub>2</sub> by SHS process", *Scripta Materielie*, Vol. 31 , No. 6, pp. 889-895, 1997
- Komarnenia, S., Noha, Y.D., Kima, J.Y., Kima, S.H., and Katsukib, H., (2010), "Solvothermal/Hydrothermal synthesis of metal oxides and metal powders with and without microwaves", *Z. Naturforsch*, Vol. 65b, pp. 1033 - 1037, 2010
- Kong, L., Yin, X., Yuan, X., Liu, X., Cheng, L., and Zhang, L., (2014), "Electromagnetic wave absorption properties of graphene modified with carbon nanotube/poly(dimethyl siloxane) composites", *Carbon*, Vol. 73, pp. 185-193, 2014
- Koops, C.G., (1951), "On the dispersion of resistivity and dielectric constant of some semiconductors at audio frequencies", *Physical Review*, Vol. 83, No. 2, pp. 121-124, 1951
- Krishna, K.R., Kumar, K.V., Ravindernathgupta, C., and Ravinder, D., (2012), "Magnetic properties of Ni-Zn ferrites by citrate gel method", *Advances in Materials Physics and Chemistry*, Vol. 2, pp. 149-154, 2012
- Kubel, F., and Schmid, H., (1990), Structure of a ferroelectric and ferroelastic mono- domain crystal of the perovskite BiFeO<sub>3</sub>", *Acta Crystallography B*, Vol. 46, pp. 698-702, 1990
- Kumar, M.M., Palkar, V.R., Srinivas, K., and Suryanarayana, S.V., (2000), "Ferroelectricity in a pure BiFeO<sub>3</sub> ceramic", *Applied Physics Letters*, Vol. 76, No. 19, pp. 2764-2766, 2000
- Kumari, M., Singh, A., and Mandal, J., (2014), "Structural and dielectric properties of PZT ceramics prepared by solid-state reaction route", *International Journal of Scientific and Engineering Research*, Vol. 5, No. 4, pp. 404-406, 2014
- Kuruva, P., Rajaputra, U.M.S., Sanyadanam, S., and Sarabu, R.M., (2013), "Effect of microwave sintering on grain size and dielectric properties of barium titanate", *Turkish Journal of Physics*, Vol. 37, pp. 312-321, 2013

- Lagashetty, A., Havanoor, V., Basavaraja, S., Balaji, S.D., and Venkataraman, A., (2007), "Microwave-assisted route for synthesis of nanosized metal oxides", *Science and Technology of Advanced Materials*, Vol. 8, pp. 484-493, 2007
- Layek, S., and Verma, H.C., (2012), "Magnetic and dielectric properties of multiferroic BiFeO<sub>3</sub> nanoparticles synthesized by a novel citrate combustion method", *Advanced Materials Letters*, Vol. 3, No. 6, pp. 533-538, 2012
- Lee, H.W., Moon, S., Choi, C.H., and Kim, D.K., (2012), "Synthesis and size control of tetragonal Barium Titanate nanopowders by facile solvothermal method", *Journal of American Ceramic Society*, Vol. 95, No. 8, pp. 1-6, 2012
- Lebeugle, D., Colson, D., Forget, A., Viret, M., Bataille, A.M., and Gukasov, A., (2008), "Electric field induced spin flop in BiFeO<sub>3</sub> single crystals at room temperature", *Physical Review Letter*, Vol. 100, pp. 227602, 2008
- Leng, P.L., Naseri, M.G., Saion, E., Shaari, A.H., and Kamaruddin, M.A., (2013), "Synthesis and characterization of Ni-Zn ferrite nanoparticles (Ni<sub>0.25</sub>Zn<sub>0.75</sub>Fe<sub>2</sub>O<sub>4</sub>) by thermal treatment method" *Advances in Nanoparticles*, Vol. 2, pp. 378-383, 2013
- Li, M., Liang, H., and Xu, M., (2008), "Simple oxalate precursor route for the preparation of brain-like shaped barium-strontium titanate: Ba<sub>0.6</sub>Sr<sub>0.4</sub>TiO<sub>3</sub>", *Materials Chemistry and Physics*, Vol. 112, pp. 337-341, 2008
- Li, N., Liu, M., Zhou, Z., Sun, N.X., Murthy, D.V.B., Srinivasan, G., Klein, T.M., Petrov, V.M., and Gupta, A., (2011), "Electrostatic tuning of ferromagnetic resonance and magnetoelectric interactions in ferrite-piezoelectric heterostructures grown by chemical vapor deposition", *Applied Physics Letters*, Vol. 99, pp. 192502:1-3, 2011
- Li, Y., Fang, X., and Cao, M., (2016), "Thermal frequency shift and tunable microwave absorption in BiFeO<sub>3</sub> family", *Scientific Reports*, Vol. 6:24837, pp. 1-6, 2016
- Li, D., Choi, C.J., Han, Z., Liu, X.G., Hu, W.J., Li, J. and Zhang, Z.D., (2009), "Magnetic and electromagnetic wave absorption properties of  $\alpha$ -Fe(N) nanoparticles", *Journal of Magnetism and Magnetic Materials*, Vol. 321, No. 24, pp. 4081-4085, 2009
- Li, Y., Cao, W. Q., Yuan, J., Wang, D. W., and Cao, M. S., (2015), "Nd doping of bismuth ferrite to tune electromagnetic properties and increase microwave absorption by magnetic-dielectric synergy", *Journal of Materials Chemistry C*, Vol. 3, pp. 9276-9282, 2015
- Liao, Z.Q., Nie, Y., Ren, W.Y., Wang, X. and Gong, R.Z., (2010), "Effect of FeCoB-SiO<sub>2</sub> film based fractal frequency selective surface on the absorption properties of microwave absorbers", *IEEE Magnetics Letters*, Vol. 48, No. 14, pp. 4074-4080, 2010
- Lian, L.X., Deng, L.J., Han, M., Tang, W., and Feng, S.D., (2007), "Microwave electromagnetic and absorption properties of Nd<sub>2</sub>Fe<sub>14</sub>B/  $\alpha$ -Fe nanocomposites in the 0.5-18 and 26.5-40 GHz ranges", *Journal of Applied Physics*, Vol. 101, pp. 09M5201-09M5203, 2007
- Lima, U.R., Nasar, M.C., Nasar, R.S., Rezende, M.C. and Araujo, J.H., (2008), "Ni-Zn nanoferrite for radar-absorbing material", *Journal of Magnetism and Magnetic Materials*, Vol. 320, pp. 1666-1670, 2008
- Liu, J.R., Itoh, M., Horikawa, T., Machida, K., Sugimoto, S., and Machida, T., (2005), "Gigahertz range electromagnetic wave absorbers made of amorphous carbon-based magnetic nanocomposites", *Journal of Applied Physics*, Vol. 98, pp. 054305: 1-7, 2005
- Liu, J.R., Itoh, M. and Machida, K., (2003), "Electromagnetic wave absorption properties of  $\alpha$ -Fe/Fe<sub>3</sub>B/Y<sub>2</sub>O<sub>3</sub> nanocomposites in gigahertz range", *Applied Physics Letters*, Vol. 83, pp. 4017-4019, 2003
- Liu, X.G., Geng, D.Y. and Zhang, Z.D., (2008), "Microwave-absorption properties of FeCo microspheres self-assembled by Al<sub>2</sub>O<sub>3</sub>-coated FeCo nanocapsules", *Applied Physics Letters*, Vol. 92, pp. 243110:1-3, 2008
- Liu, X.G., Geng, D.Y., Meng, H., Cui, W.B., Yang, F., Kang, D.J. and Zhang, Z.D., (2009), "Microwave absorption properties of FCC-Co/Al<sub>2</sub>O<sub>3</sub> and FCC-Co/Y<sub>2</sub>O<sub>3</sub> Nanocapsules", *Solid State Communication*, Vol. 149, No. 1-2, pp. 64-67, 2009
- Liu, X.G., Li, B., Geng, D.Y., Cui, W.B., Yang, F., Xie, Z.G., Kang, D.J., and Zhang, Z.D., (2009), "(Fe, Ni)/C nanocapsules for electromagnetic-wave-absorber in the whole Ku-band", *Carbon*, Vol. 47, pp. 470-474, 2009
- Liu, X.G., Ou, Z.Q., Geng, D.Y., Han, Z., Jiang, J.J., Liu, W., and Zhang, Z.D., (2010), "Influence of a graphite shell on the thermal and electromagnetic characteristics of FeNi nanoparticles", *Carbon*, Vol. 48, pp. 891-897, 2010
- Locomme, P., Hardange, J.P., Marchais, J.C., and Normant, E., (2001), *Air and Space borne Radar Systems: An Introduction*, William Andrew Publishing, Norwich, New York, USA
- Lu, B., Dong, X.L., Huang, H., Zhang, X.F., Zhu, X.G., Le, J.P., and Sun, J.P., (2008), "Microwave absorption

- properties of the core/shell-type iron and nickel nanoparticles”, *Journal of Magnetism and Magnetic Materials*, Vol. 320, pp. 1106–1111, 2008
- Lu, C., Guan, C., Liu, Y., Cheng, Y., and Yang, B., (2005), “PbS/polymer nanocomposite optical materials with high refractive index”, *Chemistry of Materials*, Vol. 17, pp. 2448–2454, 2005
- Lu, S.W., Lee B.I., Wang Z.L., and Samuels W.D., (2000), “Hydrothermal synthesis and structural characterization of BaTiO<sub>3</sub> nanocrystals”, *Journal of Crystal Growth*, Vol. 219, pp. 269–276, 2000
- Lu, X.M., Xie, J.M., Song, Y.Z. and Lin, J.M., (2007), “Surfactant-assisted hydrothermal preparation of submicrometer-sized two-dimensional BiFeO<sub>3</sub> plates and their photocatalytic activity”, *Journal of Materials Science*, Vol. 42, pp. 6824–6827, 2007
- Lu, S.W., Lee, B.I., Wang, Z.L., and Samuels, W.D., (2000), “Hydrothermal synthesis and structural characterization of BaTiO<sub>3</sub> nanocrystals”, *Journal of Crystal Growth*, Vol. 219, No. 3, pp. 269–276, 2000
- Ma, Z., Cao, C., Yuan, J., Liu, Q., and Wang, J., (2012), “Enhanced microwave absorption of BaTiO<sub>3</sub>-based ferroelectric/ferromagnetic nanocomposite”, *Applied Surface Science*, Vol., 258, pp. 7556–7561, 2012
- Ma, R., Wang, Y., Tian, Y., Zhang, C., and Li, X., (2008), “Synthesis, characterization and electromagnetic studies on nanocrystalline nickel zinc ferrite by polyacrylamide gel”, *Journal of Material Science and Technology*, Vol. 24, No. 3, pp. 419–422, 2008
- Macfarlane, G.G., (1945), “Radar camouflage research and development by the Germans” Technical Report: T, 1905, M/99, TRE, 1945
- Manzoor, U. and Kim, D.K., (2007), “Synthesis of nano-sized barium titanate powder by solid-state reaction between barium carbonate and titania”, *Journal of Materials Science and Technology*, Vol. 23, No. 5, pp. 655–658, 2007
- Mazumder, R., Devi, P.S., Bhattacharya D., Choudhury, P., and Sen, A., (2007), “Ferromagnetism in nanoscale BiFeO<sub>3</sub>”, *Applied Physics Letters*, Vol. 91, pp. 062510, 2007
- Meng, W., Yuping, D., Shunhua, L., Xiaogang, L., and Zhijiang, J., (2009), “Absorption properties of carbonyl-iron/carbon black double-layer microwave absorbers”, *Journal of Magnetism and Magnetic Materials*, Vol. 321, pp. 3442–3446, 2009
- Merzhanov, A.G., (2004), “The chemistry of self-propagating high-temperature synthesis”, *Journal of Materials Chemistry*, Vol. 14, pp. 1779–1786, 2004
- Meshram, M.R., Agarwal, N.K., Sinha, B., and Misra, P.S., (2003), “Transmission line modeling (TLM) for evaluation of absorption in ferrite based multilayer microwave absorber” *TENCON 2003, Conference on Convergent Technologies for the Asia-Pacific Region*, pp. 626–629, 2003.
- Micheli, D., Apollo, C., Psatore, R., Morles, R.B., Marchetti, M., and Gradoni, G., (2011), “Electromagnetic characterization of composite materials and microwave absorbing modeling”, *Advances in Nanocomposites- Synthesis, Characterization and Industrial Applications*, Edited by Boreddy Reddy, Intech Europe, Croatia, pp. 359–384, 2011
- Michielssen, E., Sajer, J., Ranjithan, S., and Mittra, R., (1993), “Design of lightweight, broad-band microwave absorbers using genetic algorithms”, *IEEE Transactions on Microwave Theory and Techniques*, Vol. 41, pp. 1024–1031, 1993
- Mohsen, Q., (2010), “Barium hexaferrite synthesis by oxalate precursor route”, *Journal of Alloys and Compounds*, Vol. 500, pp. 125–128, 2010
- Montgomery, C.G., Dicke, R.H., and Purcell, E., (1948), *Principles of Microwave Circuits*, Boston Tech., 1948
- Moreira, M.L., Mambrini, G.P., Volanti, D.P., Leite, E.R., Orlandi, M.O, Pizani, P.S., Mastelaro, V.R., Santos, C.O.P, Longo, E., and Varela, J.A., (2008), “Hydrothermal microwave: A new route to obtain photoluminescent crystalline BaTiO<sub>3</sub> nanoparticles”, *Chemistry of Materials*, Vol. 20, No. 16, pp. 5381–5387, 2008
- Moulson, A.J., and Herbert, J.M. (2003), *Electroceramics: Materials, Properties, Application*, 2<sup>nd</sup> Edition, Wiley Publications, West Sussex
- Mueller, M.W., Schwab, E., and Arndt, V., (1991), “Preparation of finely divided hexagonal ferrite powder”, *U.S. Patent No. 5051201*, 1991
- Muisener, P.O., Clayton, L., Angelo, J.D., and Harmon, J.P., Sikder, A.K., Kumar, A., Cassell, A.M. and Meyyappan, M., (2002), “Effects of gamma radiation on poly(methyl methacrylate)/single-wall nanotube composites”, *Journal of Materials Research*, Vol. 17, pp. 2507–2513, 2002
- Murugan, M., Kokate, V.K., Bapat, M.S., and Sapkal, A.M., (2010), “Synthesis of nanosized barium titanate/epoxy resin composites and measurement of microwave absorption”, *Bulletin of Materials Science*, Vol. 33, No. 6, pp. 657–662, 2010
- Naito, Y. and Suetake, K., (1971), “Application of ferrite to electromagnetic wave absorber and its characterization”, *IEEE Transaction on Microwave Theory and Techniques*, Vol. MTT-19, No. 1, pp. 65–72, 1971



- Nanni, F., Travaglia, P., and Valentini, M., (2009), "Effect of carbon nanofibres dispersion on the microwave absorbing properties of CNF/epoxy composites", *Composites Science and Technology*, Vol. 69, pp. 485-490, 2009
- Nandapure, A.I., Kondawar, S.B., Sawadh, P.S., and Nandapure, B.I., (2014), "Effect of zinc substitution on magnetic and electrical properties of nanocrystalline nickel ferrite synthesized by refluxing method", *Physica B*, Vol. 407, pp. 1104-1107, 2012
- Narang, S.B., and Hudiara, I.S., (2006), "Microwave dielectric properties of M-Type barium, calcium and strontium hexaferrite substituted with Co and Ti", *Journal of Ceramic Processing Research*, Vol. 7, No. 2, pp. 113-116, 2006
- Neel, L., (1948), "Propriétés magnétiques des ferrites; Ferrimagnétisme et antiferromagnétisme," *Annales de Physique*, Vol. 3, pp. 137-198, 1948
- Niasari, M.S., and Ghanbari, D., (2011), "Polymeric Nanocomposite Materials", *Advances in Diverse Industrial Applications of Nanocomposites*, Edited by Reddy, B., InTech Publisher, Croatia, Europe, pp. 501-520, 2011
- Nicolson, M., and Ross, G.F., (1970), "Measurement of the intrinsic properties of materials by time-domain techniques", *IEEE Transactions on Instrumentation and Measurement*, Vol. 19, No. 4, pp. 377-382, 1970
- Nortier, J.R., Vander-Neut, C.A., and Baker, D.E., (1987), "Tables for the design of Jaumann microwave absorber", *Microwave Journal Tech Note*, pp. 219-222, 1987
- Nyutu, E.K., Chen, C.H., Dutta, P.K., and Suib, S.L., (2008), "Effect of microwave frequency on hydrothermal synthesis of nanocrystalline tetragonal Barium Titanate", *Journal of Physical Chemistry C*, Vol. 112, pp. 9659-9667, 2008
- Oikonomou, A., Giannakopoulou, T., and Litsardakis, G., (2007), "Design, fabrication and characterization of hexagonal ferrite multi-layer microwave absorber", *Journal of Magnetism and Magnetic Materials*, Vol. 316 pp. e827-e830, 2007
- Oh, J.H., Kyung, S.O., Kim, C.G., and Hong, C.S., (2004), "Design of radar absorbing structures using glass/epoxy composite containing carbon black in X-band frequency ranges", *Composites: Part B*, Vol. 35. pp. 49-56, 2004
- Oliveira, M., and Machado, A.V., (2013), "Preparation of polymer based nanocomposites by different routes", *Nanocomposites: Synthesis, Characterization and Applications*, Edited by Wang, X., Chapter 4, pp. 73-94, 2013
- Ohara, S., Mousavand, T., Umetsu, M., Takami, S., Adschiri, T., Kuroki, Y., and Takata, M., (2004), "Hydrothermal synthesis of fine zinc oxide particles under supercritical conditions", *Solid State Ionics*, Vol. 172, pp. 261-264, 2004
- Padyukov, K.L., and Levashov, E.A., (1993), "Self-propagating high-temperature synthesis: a new method for the production of diamond-containing materials", *Diamond and Related Materials*, Vol. 2, pp. 207-210, 1993
- Palewicz, A., Sosnowska, I., Przeniosła, R., and Hewatb, A.W., (2010), "BiFeO<sub>3</sub> crystal structure at low temperatures", *Acta Physica Polonica A*, Vol. 117, pp. 296-301, 2010
- Pampuch, R., (1993), "The self-propagating high-temperature synthesis of sinterable powders", *Journal De Physique IV*, Vol. 3, pp. 1277-1285, 1993
- Panacek, A., Kvittek, L., Pucek, R., Kolar, M., Vecerova, R., Pizurova, N., Sharma, V.K., Nevecna, T., and Zboril, R., (2006) "Silver colloid nanoparticles: Synthesis, characterization and their antibacterial activity" *Journal of Physical Chemistry B*, Vol. B 110, pp. 16248 - 16253, 2006
- Pandey, D., and Singh, A., (2009), "Structure, synthesis and multiferroic nature of BiFeO<sub>3</sub> and 0.9BiFeO<sub>3</sub>-0.1BaTiO<sub>3</sub>: An overview" *Bulletin of Materials Science*, Vol. 32, No. 3, pp. 361-367, 2009
- Pant, H.C., Patra, M.K., Verma, Aditya, Vadera, S.R., and Kumar, N., (2008), "Study of the dielectric properties of barium titanate-polymer composites", *Acta Materialia*, Vol. 54, pp. 3163-3169, 2008
- Panwar, R.P., and Puri, V., (2016), "Structural, electrical and microwave properties of (Sr<sub>0.6</sub>Ca<sub>0.4</sub>) (Co<sub>y</sub>Mn<sub>1-y</sub>) O<sub>3</sub> (0.2 ≤ y ≤ 1.0) thick film ceramics", *Microelectronics International*, Vol. 33, No. 1, pp. 9-14, 2016
- Park, K.Y., Lee, S.E., Kim, C.G., and Han, J.H., (2006), "Fabrication and electromagnetic characteristics of electromagnetic wave absorbing sandwich structures", *Composites Science and Technology*, Vol. 66, pp. 576-584, 2006
- Park, J.H., Moon, B.K., Jung, G.H., Jung, G.J., Jeong, E.D., and Hong, K.S., (2006) "Synthesis, structure and dielectric properties of BaTiO<sub>3</sub> nanoparticles" *Journal of the Korean Physical Society*, Vol. 49, pp. S680-S683, 2006
- Patil, S.A., Shinde, D.V., Ahn, D.Y., Patil, D.V., Tehare, K.K., Jadhav, V.V., Lee, J.K., Mane, R.S., Shrestha, N.S., and Han, S.H., (2014), "A simple, room temperature, solid-state synthesis route for metal oxide nanostructures", *Journal of Materials Chemistry A*, Vol. 2, pp. 13519-13526, 2014

- Patrov, V.M., and Gagulin, V.V., (2001), "Microwave absorbing materials", *Inorganic Materials*, Vol. 37, No. 2, pp. 93-98, 2001
- Pavlovic, V.P., Stojanovic, B.D., Pavlovic, V.B., Stanojevic, Z.M., Zivkovic, L. and Ristic, M.M., (2008) "Synthesis of BaTiO<sub>3</sub> from a mechanically activated BaCO<sub>3</sub>-TiO<sub>2</sub> system", *Science of Sintering*, Vol. 40, No. 1, pp. 21-26, 2008
- Pecharsky, V.K., and Zavalij, P.Y., (2003), *Fundamentals of Powder Diffraction and Structural Characterization of Materials*, Kluwer Academic Publishers, Boston, USA
- Peelamedu, R., Grimes, C., Agrawal, D., and Roy, R., (2003), "Ultralow dielectric constant nickel-zinc ferrites using microwave sintering", *Journal of Materials Research*, Vol. 18, No. 10, pp. 2292-2295, 2003
- Petcharoena, K., and Sirivat, A., (2012), "Synthesis and characterization of magnetite nanoparticles via the chemical co-precipitation method", *Materials Science and Engineering B*, Vol. 177, pp. 421-427, 2012
- Phule, P.P, and Risbud, S.H., (1988), "Better ceramics through Chemistry III", *Materials Research Society Symposium Proceedings*, Vol. 121, pp. 275, 1988
- Pradhan, A.K., Zhang, K., Hunter, D., Dadson, J.B., Loutts, G.B., Bhattacharya, P., Katiyar, R., Zhang, J., Sellmyer, D.J., Roy, U.N., Cui, Y., and Burger, A., (2005), "Magnetic and electrical properties of single-phase multiferroic BiFeO<sub>3</sub>", *Journal of Applied Physics*, Vol. 97, pp. 093903-093906, 2005
- Preudhomme, J. and Tarte, P., (1971), "Infrared studies of spinels—III; The normal II-III spinels, *Spectrochimica Acta Part A: Molecular Spectroscopy*, Vol. 27, No. 9, pp. 1817-1835, 1971
- Pullar, R. C., and Bhattacharya, A.K., (2001), "The synthesis and characterization of the hexagonal Z ferrite, Sr<sub>3</sub>Co<sub>2</sub>Fe<sub>24</sub>O<sub>41</sub>, from a sol gel precursor", *Materials Research Bulletin*, Vol. 36, pp. 1531-1538, 2001
- Pullar, R.C., (2012), "Hexagonal ferrites: A review of the synthesis, properties and applications of hexaferrite ceramics", *Progress in Materials Science*, Vol. 57, pp. 1191-1334, 2012
- Purdue University, Indiana, [www.purdue.edu/ehps/rem/rs/sem.htm](http://www.purdue.edu/ehps/rem/rs/sem.htm)
- Qin, F., and Brosseau, C., (2012), "A review and analysis of microwave absorption in polymer composites filled with carbonaceous particles", *Journal of Applied Physics*, Vol. 111, pp. 061301-061325, 2012
- Qing, Y., Zhou, W., Luo, F., and Zhu, D., (2011), "Optimization of electromagnetic matching of carbonyl iron/BaTiO<sub>3</sub> composites for microwave absorption", *Journal of Magnetism and Magnetic Materials*, Vol. 323, pp. 600-606, 2011
- Qin, X., Cheng, Y., Zhou, K., Huang, S., and Hui, X., (2013), "Microwave absorbing properties of W-type hexaferrite Ba(MnZn)<sub>x</sub>Co<sub>2(1-x)</sub>Fe<sub>16</sub>O<sub>27</sub>", *Journal of Materials Science and Chemical Engineering*, Vol. 1, pp. 8-13, 2013
- Rabe, K., Ahn, C.H., Triscone, J.M., (2007), *Physics of Ferroelectrics: A Modern Perspective*, Springer-Verlag Berlin Heidelberg 2007
- Raju, P., and Murthy, S.R., (2013), "Preparation and characterization of Ni-Zn ferrite + polymer nanocomposites using mechanical milling method", *Applied Nanosciences*, Vol. 3, pp. 469-475, 2013
- Razzitte, A.C., Fano, W.G., and Jacobo, S.E., (2004), "Electrical permittivity of Ni and NiZn ferrite-polymer composites", *Physica B*, Vol. 354, pp. 228-231, 2004
- Reimer, L., (1998), *Scanning Electron Microscopy: Physics of Image Formation and Microanalysis*, Springer-Verlag Berlin Heidelberg, New York, USA
- Robert, J.C., and Mari, P.A., (1992), "Process for preparing hexaferrite particles", *U.S. Patent No. 5135733*, 1992
- Roy, A., Srinivas, V., Ram, S., Detoro, J.A., and Riveiro, J.M., (2004), "Effect of interstitial oxygen on the crystal structure and magnetic properties of Ni nanoparticles", *Journal of Applied Physics*, Vol. 96, pp. 6782-6788, 2004
- Roy, D., Chhowalla, M., Wang, H., Sano, N., Alexandrou, I., Clyne, T. W., and Amaratunga, G. A. J., (2003), "Characterization of carbon nano-onions using Raman spectroscopy", *Chemical Physics Letters*, Vol. 373, pp. 52-56, 2003
- Ruck, G.T., Barrick, D.E., Stuart, W.D., and Krichbaum, C.K. (1970), *Radar Cross Section Handbook Vol. 1-2*, Plenum Press, New York, USA
- Ruan, S., Xu, B., Suo, H., Wu, F., Xiang, S., and Zhao, M., (2000), "Microwave absorptive behavior of ZnCo-substituted W-type Ba hexaferrite nanocrystalline composite material", *Journal of Magnetism and Magnetic Materials*, Vol. 212, pp. 175-177, 2000
- Ryu, B.H., Sung, W.M., and Kum, J.S., (2011) "Method for producing ferrite", *European Patent No. EP 2320434 A2*, 2011
- Saini, L., Janu, Y., Patra, M.K., Jani, R.K., Gupta, G.K., Dixit, A., and Vadera, S.R., (2016), "Dual band resonance in tetragonal BaTiO<sub>3</sub>/NBR composites for MW absorption applications", *Journal of American Ceramic Society*, Vol. 99, No. 9, pp. 3002-3007, 2016

- Saily, J., and Raisanen, A.V., (2003), "Studies on specular and non-specular reflectivities of radar absorbing materials (RAM) at submillimeter wavelengths" *Helsinki University of Technology Radio Laboratory Publications*, Report No. S 258, February 2003.
- Salje, E.K.H., (1990), "Phase transitions in ferroelectrics", *Ferroelastic and Coelastic Crystals*, Cambridge University Press, Cambridge, 1990
- Salisbury, W.W., "Absorbent body for electromagnetic waves" US Patent: 2599944, 1952
- Sano, N., Akazawa, H., Kikuchi, T., and Kanki, Y., (2003), "Separated synthesis of iron-included carbon nano capsules and nanotubes by pyrolysis of ferrocene in pure hydrogen", *Carbon*, Vol. 41, pp. 2159-2162, 2003
- Saravanan, P., Jose, T.A., Thomas, P.J., and Kulkarni, G.U., (2001), "Submicron particles of Co, Ni and Co-Ni alloys", *Bulletin of Materials Science*, Vol. 24, pp. 515-521, 2001
- Sarangi, P.P., Vadera, S.R., Patra, M.K., and Ghosh, N.N., (2010), "Synthesis and characterization of pure single phase Ni-Zn ferrite nanopowders by oxalate based precursor method", *Powder Technology*, Vol. 203, pp. 348-353, 2010
- Sato, T., Sue, K., Akiyama, Y., Shibata, K., Kawasaki, S.I., Tanaka, S., Saitoh, K., Nakamura, A.K., Aida, K., and Hiaki, T., (2008), "Effect of pH on hydrothermal synthesis of gamma-Al<sub>2</sub>O<sub>3</sub> nanoparticles at 673 K", *Chemical Letters*, Vol. 37, pp. 242-243, 2008
- Saville, P., (2005), "Review of Radar Absorbing Materials" *Defence Research and Development Canada, Report No. DRDC-Atlantic TM 2005-003*, Atlantic, Canada, January 2005.
- Saxena, V.K., (2012), "Stealth and counter-stealth; some emerging thoughts and continuing debates" *Journal of Defence Studies*, Vol. 6, No. 3, pp. 19-28, 2012
- Schade, H.A., "Schomsteinfeger US tech. mission to Europe" Technical Report: 9045 AD - 47746, 1945
- Schmidt, H.K., Geiter, E., Mennig, M., Krug, H., Becker, C., and Winkler, R.P., (1998), "The Sol-gel process for nano-technologies: New nanocomposites with interesting optical and mechanical properties", *Journal of Sol-gel Science and Technology*, Vol. 13, pp. 397-404, 1998
- Schmidt, G., and Malwitz, M.M., (2003), "Properties of polymer-nanoparticle composites", *Current Opinion in Colloid and Interface Science*, Vol. 8, pp. 103-108, 2003
- Schrader, B., (1995), *Infrared and Raman Spectroscopy*, VCH Verlagsgesellschaft mbH, Weinheim, Germany
- Scott, J.H.J., and Majetich, S.A., (1995), "Morphology, structure, and growth of nanoparticles produced in a carbon arc", *Physical Review B*, Vol. 52, No. 17, pp. 12564-12571, 1995
- Scott, J.F., (2013), "Room-temperature multiferroic magnetoelectrics", *NPG Asia Materials*, Vol. 5, e72, pp. 1-11, 2013
- Setter, N., Colla, E., Reaney, I., Zurmuhlen, R., Dube, D., and Petzelt, J., (1994), "Structural aspects in ceramics for microwave resonators", *Ferroelectrics*, Vol. 154, pp. 231-235, 1994
- Severin, H., (1956), "Nonreflecting absorbers for microwave radiation, *IRE Transaction on Antennas and Propagation*, Vol. AP-4, pp. 385-392, 1956
- Shams, M.H., Salehi, S.M.A., and Ghasemi, A., (2008) "Electromagnetic wave absorption characteristics of Mg-Ti substituted Ba-hexaferrite", *Materials Letters*, Vol. 62, pp. 1731-1733, 2008
- Sharma, R., Agarwala, R.C., and Agarwala, V., (2009), "Development of electro-less (Ni-P)/BaNi<sub>0.4</sub>Ti<sub>0.4</sub>Fe<sub>1.2</sub>O<sub>19</sub> nano-compo- site powder for enhanced microwave absorption," *Journal of Alloys and Compounds*, Vol. 467, pp. 357-365, 2009
- Shen, C., Lishuang, Z., Lan, C., Fan, Z., Kui, L., Fengmin, J., Ling, L., and Shah, S.A., (2015), "Preparation of carbon encapsulated iron nanoparticles with very thin shells by DC arc discharge", *Transactions of Tianjin University*, Vol. 21, pp. 11-18, 2015
- Shimba, K., Furuta, K., Morimoto, N., Tezuka, N., and Sugimoto, S. (2011), "Microwave absorption properties of polymer modified Ni-Zn ferrite nanoparticles", *Materials Transactions*, Vol. 52, No. 4, pp. 740- 745, 2011
- Shima, H., Naganuma, H., and Okamura, S., (2013) "Optical properties of multiferroic BiFeO<sub>3</sub> films", Chapter 2, *Materials Science - Advanced Topics*, Intech Publication
- Shin, J.Y. and Oh, J.H., (1993), "The microwave absorbing phenomena of ferrite microwave absorbers", *IEEE Transaction on Magnetics*, Vol. 29, No. 6, pp. 3437-3439, 1993
- Singh, V.K., Shukla, A., Patra, M.K., Saini, L., Jani, R.K., Vadera, S.R., and Kumar, N., (2012), "Microwave absorbing properties of a thermally reduced graphene oxide/nitrile butadiene rubber composite", *Carbon*, Vol. 50, No. 6, pp. 2202-2208, 2012
- Singh, S., Singh, M., Ralhan, N.K., Kotnala, R.K., and Verma, K.C., (2012), "Improvement in ferromagnetism of NiFe<sub>2</sub>O<sub>4</sub> nanoparticles with Zn doping", *Advanced Materials Letters*, Vol. 3, No. 6, pp. 504-506, 2012
- Smith, D.J., (2015), "Characterization of nanomaterials using transmission electron microscopy", *Nanocharacterisation*, 2<sup>nd</sup> Edition, *RSC Nanoscience and Nanotechnology*, pp. 1-29, 2015

- Smit J. and Wijn H.P.J., (1959), *Ferrites*, Philips Technical Library, John Wiley and Sons Pub., Eindhoven, The Netherlands, 1959
- Snoek, J.L., (1947), *New Development in Ferromagnetic Materials*, Elsevier, New York
- Sobiestianskas, R., Peng, W., Lemée, N., Karkut, M., Banys, J., Holc, J., and Kosec, M., (2012), "Microwave dielectric dispersion in a multiferroic  $\text{Pb}(\text{Fe}_{1/2}\text{Nb}_{1/2})\text{O}_3$  thin film", *Applied Physics Letters*, Vol. 100, No. 12, pp. 122904-122907, 2012
- Sowmya, N.S., Srinivas, A., Suresh, P., Shukla, A., and Kamat, S.V., (2015), "Synthesis and study of structural, magnetic and microwave absorption properties in multiferroic  $\text{BiFeO}_3$  electroceramic", *Material Science: Materials Electronics*, Vol. 26, pp. 5368-5372, 2015
- Steenwinkel, Y.Z., Castricum, H.L., Bliet, A., and Esveld, E., (2007), "Perovskite-type oxides as susceptor materials in dielectric heating", *Journal of Materials Science*, Vol. 42, pp. 5851-5859, 2007
- Strukov, B. A., Levanyuk, A. P., (1998), *Ferroelectric Phenomena in Crystals: Physical Foundations*, Springer-Verlag: Berlin, New York, USA
- Stubbs, H.V.G., Wickenden, B.V.A., Howell, W.G., and Perry, E.D., (1981), "Review of Radar Absorbing Materials", UK Patent GB 2058469A, 1981
- Su, X., Fu, F., Yan, Y., Zheng, G., Liang, T., Zhang, Q., Cheng, X., Yang, D., Chi, H., Tang, X., Zhang, Q., and Uher, C., (2014), "Self-propagating high-temperature synthesis for compound thermoelectrics and new criterion for combustion processing", *Nature Communications*, Vol. 5:4908, pp. 1-7, 2014
- Sue, K., Kimura, K., Yamamoto, M., and Arai, K., (2004), "Rapid hydrothermal synthesis of  $\text{ZnO}$  nanorods without organics", *Materials Letters*, Vol. 58, pp. 3350-3352, 2004
- Suetake, K., (1971), "Super wide band wave absorber", US Patent No. 3,623,099
- Sugimoto, S., Okayama, K., Kondo, S., Ota, H., Kimura, M., Yoshida, Y., Nakamura, H., Book, D., Kagotani, T., and Homma, M., (1998), "Barium M-type ferrite as an electromagnetic microwave absorber in the GHz range", *Materials Transaction JIM*, Vol. 39, No. 10, pp. 1080-1083, 1998
- Sugimoto, S., Maeda, T., Book, D., Kagotani, T., Inomata, K., Homma, M., Ota, H., Houjou, Y., and Sato, R., (2002), "GHz microwave absorption of a fine  $\alpha$ -Fe structure produced by the disproportionation of  $\text{Sm}_2\text{Fe}_{17}$  in hydrogen", *Journal of Alloys and Compounds*, Vol. 330-332, pp. 301-306, 2002
- Sugimoto, S., Haga, K., Kagotani, T. and Inomata, K., (2005) "Microwave absorption properties of Ba M-type ferrite prepared by a modified co-precipitation method", *Journal of Magnetism and Magnetic Materials*, Vol. 290-291, pp. 1188-1191, 2005
- Sui, R., and Charpentier, P., (2012), "Synthesis of metal oxide nanostructures by direct sol-gel chemistry in supercritical fluids", *Chemical Reviews*, Vol. 112, pp. 3057-3082, 2012
- Surig C., Hempel K.A., and Bonnenberg D., "Formation and microwave absorption of barium and strontium ferrite prepared by sol-gel technique", (1993), *Journal of Applied Physics Letters*, Vol. 63 No. 20, pp. 2836-2838, 1993
- Suresh, P., and Srinath, S., (2014), "A comparative study of sol-gel and solid-state prepared  $\text{La}^{3+}$  doped multiferroic  $\text{BiFeO}_3$ ", *Advanced Materials Letters*, Vol. 5, No. 3, pp. 127-130, 2014
- Takada, Y., Nakagawa, T., Tokunaga, M., Fukuta, Y., Tanaka, T., and Yamamoto, T.A., (2006), "Crystal and magnetic structures and their temperature dependence of  $\text{Co}_2$  Z-type hexaferrite  $(\text{Ba,Sr})_3\text{Co}_2\text{Fe}_{24}\text{O}_{41}$  by high-temperature neutron diffraction", *Journal of Applied Physics*, Vol. 100, pp. 043904:1-7, 2006
- Tang, N.J., Zhong, W., Jiang, H.Y., Han, Z.D., Zou, W.Q., Du, Y.W., (2004), "Complex permeability of  $\text{FeNi}_3/\text{SiO}_2$  core-shell nanoparticles" *Solid State Communication*, Vol. 132, No. 2, pp. 71-74, 2004
- Teague, J.R., Gerson, R., and James, W.J., (1970), "Dielectric hysteresis in single crystal  $\text{BiFeO}_3$ " *Solid State Communication*, Vol. 8, No. 13, pp. 1073-1074, 1970
- Tulugan, K., Kim, H., Park, W., Choi, Y.B. and Park, W., (2013), "Aluminum-silicon and aluminum-silicon/carbon nanoparticles with core-shell structure synthesized by arc discharge method", *Journal of Alloys and Compounds*, Vol. 579, pp. 529-532, 2013
- Tyagi, S., Baskey, H.B., Agarwala, R.C., Agarwala, V., and Shami, T.C., (2011), "Synthesis and characterization of  $\text{SrFe}_{11.2}\text{Zn}_{0.8}\text{O}_{19}$  nanoparticles for enhanced microwave absorption", *Journal of Electronic Materials*, Vol. 40, No. 9, pp. 2004-2014, 2011
- Upton, L.O. and Thurman, L.A., (2003), "Radars for the detection and Tracking of Cruise Missiles", *Lincoln Laboratory Journal*, Vol. 12, No. 2, pp. 355-366, 2003
- Vadera, S.R., Tuli, A., Kumar, N., Sharma, B.B., Gupta, S.R., Prakash, C., Kishan, P., (1997), "Preparation and study of finely dispersed magnetic oxide in polymer matrix", *Journal of Physics IV*, Vol. 7, pp. C-549-550, 1997
- Van Uitert, L.G., (1955), "DC resistivity in the nickel and nickel zinc ferrite system," *The Journal of Chemical Physics*, Vol. 23, No. 10, pp. 1883-1887, 1955
- Velmurugan, K., Venkatachalapathy, V.S.K., and Sendhilnathan, S., (2010) "Synthesis of nickel zinc iron nanoparticles by co-precipitation technique" *Materials Research*, Vol. 13, No. 3, pp. 299-303, 2010

- Verma, A., Goel, T.C., Mendiratta, R.G., and Kishan, P., (2000), "Magnetic properties of nickel-zinc ferrites prepared by the citrate precursor method", *Journal of Magnetism and Magnetic Materials*, Vol. 208, No. 1-2, pp. 13-19, 2000
- Verma, A., Saxena, A.K., and Dube, D.C., (2003), "Microwave permittivity and permeability of ferrite-polymer thick films", *Journal of Magnetism and Magnetic Materials*, Vol. 263, pp. 228-234, 2003
- Vijatovic, M.M., Bolic, J.D. and Stojanovic, B.D., (2008) "History and challenges of Barium Titanate: Part II," *Science of Sintering*, Vol. 40, No. 3, pp. 235-244, 2008
- Vinayasree, S., Soloman, M.A., Sunny, V., Mohanan, P., Kurian, P., Joy, P.A. and Anantharaman, M.R., (2014), "Flexible microwave absorbers based on barium hexaferrite, carbon black, and nitrile rubber for 2-12 GHz applications", *Journal of Applied Physics*, Vol. 116, pp. 024902:1-7, 2014
- Vinoy, K.J. and Jha, R.M., (1996), *Radar Absorbing Materials: From Theory to Design and Characterization* Kluwer Academic Publishers, Norwell, Boston, USA
- Viswanathan, B., and Murthy, V.R.K., (1990), *Ferrite Materials: Science and Technology*, Narosa Publishing House, New Delhi, India
- Wainer E., and Salomon, A.N., (1942), Titanium Alloy Manufacturing Company, Electrical Report No. 8, Vol. 3, 1942
- Walther Meibner Institute for Low Temperature Research, Germany, [www.wmi.badw.de/methods/squid.html](http://www.wmi.badw.de/methods/squid.html), 2015
- Wang, Y., Li, T., Zhao, L., Hu, Z., and Gu, Y., (2011), "Research progress on nanostructured radar absorbing materials", *Energy and Power Engineering*, Vol. 3, pp. 580-584, 2011
- Wang, C., Shen, Y., Wang, X., Zhang, H., and Xie, A., (2013), "Synthesis of novel NiZn-ferrite/Polyaniline nanocomposites and their microwave absorption properties", *Materials Science in Semiconductor Processing* Vol. 16, pp. 77-82, 2013
- Wang, B., Wei, Q., and Qu, S., (2013), "Synthesis and characterization of uniform and crystalline magnetite nanoparticles via oxidation-precipitation and modified co-precipitation methods", *International Journal of Electrochemical Science*, Vol. 8, pp. 3786 - 3793, 2013
- Wang, J., Neaton, J.B., Zheng, H., Nagarajan, V., Ogale, S.B., Liu, B., Viehland, D., Vaithyanathan, V., Schlom, D.G., Waghmare, U.V., Spaldin, N.A., Rabe, K.M., Wuttig, M., and Ramesh, R., (2003), "Epitaxial BiFeO<sub>3</sub> multiferroic thin film heterostructures", *Science*, Vol. 299, pp. 1719-1722, 2003
- Wang, Y.P., Zhou, L., Zhang, M.F., Chen, X.Y., Liu, J.M., and Liu, Z.G., (2004), "Room-temperature saturated ferroelectric polarization in BiFeO<sub>3</sub> ceramics synthesized by rapid liquid phase sintering," *Applied Physics Letters*, Vol. 84, No. 10, pp. 1731-1733, 2004
- Weir, W.B., "Automatic measurement of complex dielectric constant and permeability at microwave frequencies", *Proceedings of the IEEE*, Vol. 62, No. 1, pp. 33-36, 1974.
- Wei, J., and Xue, D., (2008), "Low-temperature synthesis of BiFeO<sub>3</sub> nanoparticles by Ethylenediaminetetraacetic acid complexing sol-gel process", *Materials Research Bulletin*, Vol. 43, pp. 3368-73, 2008
- Went, J.J., Ratheneau, G.W., Gorter, E.W., and Van Oosterhout, G.W., (1951), "Hexagonal iron-oxide compounds as permanent-magnet materials", *Physical Review*, Vol. 86, pp. 424-425, 1951
- Wen, F., Wang, N., and Zhang, F., (2010), "Enhanced microwave absorption properties in BiFeO<sub>3</sub> ceramics prepared by high-pressure synthesis", *Solid State Communications*, Vol. 150, pp. 1888-1891, 2010
- Wijn H.P.J., (1952), "A new method of melting ferromagnetic semiconductors BaFe<sub>18</sub>O<sub>27</sub>: a new kind of ferromagnetic crystal with high crystal anisotropy, *Nature*, Vol. 170, pp. 707-708, 1952
- Williams, D.B., and Carter, C.B., (2009), *Transmission Electron Microscopy: Textbook for Materials Science*, Springer, USA
- Wu, N., Liu, X., and Or, S.W., (2016), "Core/shell-structured nickel/nitrogen-doped onion-like carbon nanocapsules with improved electromagnetic wave absorption properties", *AIP Advances*, Vol. 6, pp. 056206:1-6, 2016
- Xiang, C.C., Nie, Y., and Feng, Z.K., (2011), "Low-loss Z-type hexaferrite with Sr-substitution for microwave antenna miniaturization" *IEEE 4<sup>th</sup> International Symposium on Microwave, Antenna, Propagation, and EMC Technologies for Wireless Communications (MAPE)*, Beijing, pp. 71-74, 2011
- Xiao, H.M., Liu, X.M., and Fu, S.Y., (2006) "Synthesis, magnetic and microwave absorbing properties of core-shell structured MnFe<sub>2</sub>O<sub>4</sub>/TiO<sub>2</sub> nanocomposites," *Composites Science and Technology*, Vol. 66 No. 13, pp. 2003 -2008, 2006
- Xie, Z., Geng, D., Liu, X., Ma, S., and Zhang, Z., (2011), "Magnetic and microwave-absorption properties of graphite-coated (Fe, Ni) nanocapsules", *Journal of Materials Science and Technology*, Vol. 27, No. 7, pp. 607-614, 2011

- Yan, X., Gao, D., Chai, G., and Xue, D., (2012), "Adjustable microwave absorption properties of flake shaped  $(\text{Ni}_{0.5}\text{Zn}_{0.5})\text{Fe}_2\text{O}_4/\text{Co}$  nanocomposites with stress induced orientation", *Journal of Magnetism and Magnetic Materials*, Vol. 324, pp. 1902–1906, 2012
- Yang, C.C., Gung, Y.J., Shih, C.C., Hung, W.C., and Wu, K.H., (2011), "Synthesis, infrared and microwave absorbing properties of  $(\text{BaFe}_{12}\text{O}_{19}+\text{BaTiO}_3)/\text{polyaniline}$  composite", *Journal of Magnetism and Magnetic Materials*, Vol. 323, pp. 933–938, 2011
- Zhang, D., Cao, X., Peng, Z., and Zeng, G., (2014), "Simulation and experiment for microwave absorption of carbon-coated nickel nanoparticles composites", *Information Technology Journal*, Vol. 13, NO. 7, pp. 1329-1334, 2014
- Zhang, H., Wu, M., Yao, X., and Zhang, L., (2003), "Complex permittivity, permeability, and microwave absorption of barium ferrite by citrate sol-gel process", *Rare Metals*, Vol. 22, No. 2, pp. 125-130, 2003
- Zhang, H., Li, L., Zhou, J., Yue, Z., Ma, Z., and Gui, Z., (2001), "Microstructure characterization and properties of chemically synthesized  $\text{Co}_2\text{Z}$  hexaferrite", *Journal of European Ceramic Society*, Vol. 21, pp. 149-153, 2001
- Zhang, X.F., Dong, X.L., Huang, H., Lv, B., Lei, J.P., and Choi, C.J., (2007), "Microstructure and microwave absorption properties of carbon-coated iron nanocapsules", *Journal of Physics D: Applied Physics*, Vol. 40 pp. 5383–5387, 2007
- Zhang, X.F., Dong, X.L., Huang, H., Liu, Y.Y., Wang, W.N., Zhu, X.G., Lv, B., Lei, J.P., and Lee, C.G., (2006), "Microwave absorption properties of the carbon-coated nickel nanocapsules", *Applied Physics Letters*, Vol. 89, pp. 053115-1-3, 2006
- Zhang, X., Zhao, Y. G., Cui, Y. F., Ye, L. D., Wang, J. W., Zhang, S., Zhang, H. Y., and Zhu, M. H., (2012), "Magneto-dielectric effect in Z-type hexaferrite", *Applied Physics Letters*, Vol. 100, pp. 032901-01-03, 2012
- Zhang M., Liu, Q.C., Zi, Z.F., Dai, Y.Q., Zhu, X.B., Sun, Y.P., and Dai, J.M., (2013), "Magnetic and microwave absorption properties of  $\text{Ni}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$  nanocrystalline synthesized by sol-gel method", *Science China Technological Science*, Vol. 56, No. 1, pp. 13-19, 2013
- Zhao, Y.W., Ni, C.Y., Kruczynski, D., Zhang, X.K., and Xiao, J.Q., (2004), "Exchange couple soft magnetic  $\text{FeNi-SiO}_2$  nanocomposite", *Journal of Physical Chemistry B*, Vol. 108(12), pp. 3691–3693, 2004
- Zhigang, S., Weiwei, Z., Jianfeng, C. and Yun, J., (2006), "Low temperature one step synthesis of Barium Titanate: particle formation mechanism and large-scale synthesis," *Chinese Journal of Chemical Engineering*, Vol. 14, No. 5, pp. 642-648, 2006
- Zhong, J.L., Zhi, L.H., Wei, L.S., Xing, D.L., Wen, Q.C., Xiao, H.S., and Mao, S.C., (2016), "Unusual continuous dual absorption peaks in Ca-doped  $\text{BiFeO}_3$  nanostructures for broadened microwave absorption", *Nanoscale*, Vol. 8, pp. 10415-10424, 2016
- Zhou, K., Deng, J., Yin, L., Ma, S., and Gao, S., (2007), "Microwave absorbing properties of  $\text{La}_{0.8}\text{Ba}_{0.2}\text{MnO}_3$  nano-particles," *Transactions of Nonferrous Metals Society of China*, Vol. 17, No. 5, pp. 947-950, 2007
- Zhu, W., Wang, L., Zhao, R., Ren, J., Lua, G., and Wang, Y., (2011), "Electromagnetic and microwave-absorbing properties of magnetic nickel ferrite nanocrystals", *Nanoscale*, Vol. 3, No. 7, pp. 2862–2864
- Zhu, Y. F., Zhang, L., Natsuki, T., Fu, Y. Q., and Ni, Q. Q., (2012), "Facile Synthesis of  $\text{BaTiO}_3$  Nanotubes and their Microwave Absorption Properties," *ACS Applied Materials and Interfaces*, Vol. 4, No. 4, pp. 2101-2106, 2012
- Zhu, Y.F., Zhang, L., Natsuki, T., Fu, Y.Q., and Q. Q. Ni, (2012), "Facile Synthesis of  $\text{BaTiO}_3$  nanotubes and their microwave absorption properties", *ACS Applied Materials and Interfaces*, Vol. 4, No. 4, pp. 2101-2106, 2012
- Zhu, W., Wang, L., Zhao, R., Ren, J., Lua, G., and Wang, Y. (2011), "Electromagnetic and microwave-absorbing properties of magnetic nickel ferrite nanocrystals", *Nanoscale*, Vol. 3, pp. 2862-2864, 2011
- Zhu, J., Li, H., Zhong, L., Xiao, P., Xu, X., Yang, X., Zhao, Z. and Li, J., (2014), "Perovskite oxides: preparation, characterizations and applications in heterogeneous catalysis", *ACS Catalysis*, Vol. 4, No. 9, pp. 2917-2940, 2014
- Zhu, Y.F., Zhang, Li, Natsuki, T., Fu, Y.Q., and Ni, Q.Q., (2012), "Facile synthesis of  $\text{BaTiO}_3$  nanotubes and their microwave absorption properties", *ACS Applied Materials and Interfaces*, Vol. 4, pp. 2101–2106
- Znaldi, L., and Pommier, C., (1998), "Synthesis of nanometric chromium (III) oxide powders in supercritical alcohol, *European Journal of Solid State Inorganic Chemistry*, Vol. 35, pp. 405-417, 1998
- Zou, H., Li, S., Zhang, L., Yan, S., Wu, H., Zhang, S. and Tian M., (2011), "Determining factors for high performance silicone rubber microwave absorbing materials", *Journal of Magnetism and Magnetic Materials*, Vol. 323, pp. 1643–1651, 2011

...