Almeida, A. F. L., De Oliveira, R. S., Góes, J. C., Sasaki, J. M., Souza Filho, A. G. D., Mendes Filho, J., & Sombra, A. S. B. (2002). Structural properties of $CaCu_3Ti_4O_{12}$ obtained by mechanical alloying. *Materials Science and Engineering: B*, *96*(3), 275-283.

Asami, K. (2002). Characterization of heterogeneous systems by dielectric spectroscopy. *Progress in polymer science*, *27*(8), 1617-1659.

Adams, T. B., Sinclair, D. C., & West, A. R. (2002). Giant barrier layer capacitance effects in $CaCu_3Ti_4O_{12}$ ceramics. *Advanced Materials*, *14*(18), 1321-1323.

Amaral, F., Costa, L. C., & Valente, M. A. (2011). Decrease in dielectric loss of $CaCu_3Ti_4O_{12}$ by the addition of TeO_2. *Journal of Non-Crystalline Solids*, *357*(2), 775-781.

Amaral, F., Valente, M. A., & Costa, L. C. (2010). Dielectric properties of $CaCu_3Ti_4O_{12}$ (CCTO) doped with GeO_2. *Journal of Non-Crystalline Solids*, *356*(11), 822-827.

Anju, V. P., & Narayanankutty, S. K. (2016). Polyaniline coated cellulose fiber/polyvinyl alcohol composites with high dielectric permittivity and low percolation threshold. *AIP Advances*, *6*(1), 015109.

Amaral, F., Costa, L. C., & Valente, M. A. (2011). Decrease in dielectric loss of $CaCu_3Ti_4O_{12}$ by the addition of TeO_2. *Journal of Non-Crystalline Solids*, *357*(2), 775-781.

Amaral, F., Valente, M. A., & Costa, L. C. (2010). Dielectric properties of $CaCu_3Ti_4O_{12}$ (CCTO) doped with GeO_2. *Journal of Non-Crystalline Solids*, *356*(11), 822-827.

Birkholz, M., Albers, U., & Jung, T. (2004). Nanocomposite layers of ceramic oxides and metals prepared by reactive gas-flow sputtering. *Surface and Coatings Technology*, *179*(2), 279-285.

Bueno, P. R., Ribeiro, W. C., Ramírez, M. A., Varela, J. A., & Longo, E. (2007). Separation of dielectric and space charge polarizations in $CaCu_3Ti_4O_{12}/CaTiO_3$ composite polycrystalline systems. *Applied physics letters*, *90*(14), 142912.

Badapanda, T., Senthil, V., Rout, S. K., Cavalcante, L. S., Simões, A. Z., Sinha, T. P., ... & Varela, J. A. (2011). Rietveld refinement, microstructure, conductivity and impedance properties of Ba $[Zr_{0.25}\ Ti_{0.75}]\ O_3$ ceramic. *Current Applied Physics*, *11*(6), 1282-1293.

Batool, S. S., Imran, Z., Rafiq, M. A., Hasan, M. M., & Willander, M. (2013). Investigation of dielectric relaxation behavior of electrospun titanium dioxide nanofibers using temperature dependent impedance spectroscopy. *Ceramics International*, *39*(2), 1775-1783.

Clarke, D. R. (1987). Grain boundaries in polycrystalline ceramics. *Annual Review of Materials Science*, *17*(1), 57-74.

Cao, L., Sozontov, E., & Zegenhagen, J. (2000). Cubic to Tetragonal Phase Transition of $SrTiO_3$ under Epitaxial Stress: An X-Ray Backscattering Study. *physica status solidi (a)*, *181*(2), 387-404.

Chen, H., Cong, T. N., Yang, W., Tan, C., Li, Y., & Ding, Y. (2009). Progress in electrical energy storage system: A critical review. *Progress in Natural Science*, *19*(3), 291-312.

Chung, S. Y., Kim, I. D., & Kang, S. J. L. (2004). Strong nonlinear current–voltage behaviour in perovskite-derivative calcium copper titanate. *Nature materials*, *3*(11), 774-778.

De Groot, F. M. F., Grioni, M., Fuggle, J. C., Ghijsen, J., Sawatzky, G. A., & Petersen, H. (1989). Oxygen 1s x-ray-absorption edges of transition-metal oxides. *Physical Review B*, *40*(8), 5715.

Deschanvres, A., Raveau, B., & Tollemer, F. (1967). Substitution of copper for a divalent metal in perovskite-type titanates. *Bull. Soc. Chim. Fr*, *11*, 4077-4078.

Fouskova, A., & Cross, L. E. (1970). Dielectric properties of bismuth titanate. *Journal of Applied Physics*, *41*(7), 2834-2838.

Fang, L., Shen, M., & Li, Z. (2006). Effect of double-sided $CaTiO_3$ buffer layers on the electrical properties of $CaCu_3Ti_4O_{12}$ films on Pt/ Ti/ SiO_2/ Si substrates. *Journal of applied physics*, *100*(10), 104101.

Galasso, F. S. (2013). Structure, properties and preparation of perovskite-type compounds*: international series of monographs in solid state physics* (Vol. 5).

Guyot, F., Richet, P., Courtial, P., & Gillet, P. (1993). High-temperature heat capacity and phase transitions of $CaTiO_3$ perovskite. *Physics and Chemistry of Minerals*, *20*(3), 141-146.

Gautam, P., Yadava, S. S., Khare, A., & Mandal, K. D. (2017). Dielectric and magnetic studies of 0.5 $Bi_{2/3}Cu_3Ti_4O_{12}$-0.5 $Bi_3LaTi_3O_{12}$ nano-composite ceramic synthesized by semi-wet route. *Ceramics International*, *43*(3), 3133-3139.

Gautam, P., Khare, A., Sharma, S., Singh, N. B., & Mandal, K. D. (2016). Characterization of Bi $_{2/3}$ $Cu_3Ti_4O_{12}$ ceramics synthesized by semi-wet route. *Progress in Natural Science: Materials International*, *26*(6), 567-571.

Huang, X., Jiang, P., & Tanaka, T. (2011). A review of dielectric polymer composites with high thermal conductivity. *IEEE Electrical Insulation Magazine*, *27*(4).

Hodge, I. M., Ingram, M. D., & West, A. R. (1976). Impedance and modulus spectroscopy of polycrystalline solid electrolytes. *Journal of Electroanalytical Chemistry and Interfacial Electrochemistry*, *74*(2), 125-143.

Hao, W., Zhang, J., Tan, Y., & Su, W. (2009). Giant Dielectric-Permittivity Phenomena of Compositionally and Structurally $CaCu_3Ti_4O_{12}$-Like Oxide Ceramics. *Journal of the American Ceramic Society*, *92*(12), 2937-2943.

Harizanov, O., Harizanova, A., & Ivanova, T. (2004). Formation and characterization of sol–gel barium titanate. *Materials Science and Engineering: B*, *106*(2), 191-195.

Huang, C. L., & Chen, Y. C. (2002). Low temperature sintering and microwave dielectric properties of $SmAlO_3$ ceramics. *Materials research bulletin*, *37*(3), 563-574.

Irvine, J. T., Sinclair, D. C., & West, A. R. (1990). Electroceramics: characterization by impedance spectroscopy. *Advanced Materials*, *2*(3), 132-138.

José-Yacamán, M., Rendón, L., Arenas, J., & Puche, M. C. S. (1996). Maya blue paint: an ancient nanostructured material. *Science*, *273*(5272), 223.

Kretly, L. C., Almeida, A. F. L., De Oliveira, R. S., Sasaki, J. M., & Sombra, A. S. B. (2003). Electrical and optical properties of $CaCu_3Ti_4O_{12}$ (CCTO) substrates for microwave devices and antennas. *Microwave and Optical Technology Letters*, *39*(2), 145-150.

Kamigaito, O. (1991). What can be improved by nanometer composites?. *Journal of the Japan Society of Powder and Powder Metallurgy*, *38*(3), 315-321.

Kruis, F. E., Fissan, H., & Peled, A. (1998). Synthesis of nanoparticles in the gas phase for electronic, optical and magnetic applications—a review. *Journal of Aerosol Science*, *29*(5), 511-535.

Kretly, L. C., Almeida, A. F. L., De Oliveira, R. S., Sasaki, J. M., & Sombra, A. S. B. (2003). Electrical and optical properties of $CaCu_3Ti_4O_{12}$ (CCTO) substrates for microwave devices and antennas. *Microwave and Optical Technology Letters*, *39*(2), 145-150.

Kim, H. E., Choi, S. M., Lee, S. Y., Hong, Y. W., & Yoo, S. I. (2013). Improved dielectric properties of $BaTiO_3$-added $CaCu_3Ti_4O_{12}$ polycrystalline ceramics. *Electronic Materials Letters*, *9*(3), 325-330.

Kai, C., Wei, L., Yun-Fei, L., Peng, B., Xiao-Mei, L., & Jin-Song, Z. (2004). Investigation of the size effect on the giant dielectric constant of $CaCu_3Ti_4O_{12}$ ceramic. *Chinese Physics Letters*, *21*(9), 1815.

Kim, K. M., Kim, S. J., Lee, J. H., & Kim, D. Y. (2007). Microstructural evolution and dielectric properties of SiO_2-doped $CaCu_3Ti_4O_{12}$ ceramics. *Journal of the European Ceramic Society*, *27*(13), 3991-3995.

Kumar, D. A., Selvasekarapandian, S., Nithya, H., Sakunthala, A., & Hema, M. (2010). Dielectric, modulus and impedance analysis of LaF_3 nanoparticles. *Physica B: Condensed Matter*, *405*(17), 3803-3807.

Kwon, S., Huang, C. C., Patterson, E. A., Cann, D. P., Alberta, E. F., Kwon, S., & Hackenberger, W. S. (2008). The effect of Cr_2O_3, Nb_2O_5 and ZrO_2 doping on the dielectric properties of $CaCu_3 Ti_4O_{12}$. *Materials Letters*, *62*(4), 633-636.

Khare, A., Yadava, S. S., Gautam, P., Mukhopadhyay, N. K., & Mandal, K. D. (2017). Effect of sintering on the dielectric properties of 0.5 $BaTiO_3$–0.5 $Bi_{2/3}Cu_3Ti_4O_{12}$ nanocomposite synthesized by solid state route. *Journal of Materials Science: Materials in Electronics*, *28*(7), 5523-5530.

Krohns, S., Lunkenheimer, P., Ebbinghaus, S. G., & Loidl, A. (2007). Broadband dielectric spectroscopy on single-crystalline and ceramic $CaCu_3Ti_4O_{12}$. *Applied physics letters*, *91*(2), 022910.

Karnik, B. S., Baumann, M. J., Masten, S. J., & Davies, S. H. (2006). AFM and SEM characterization of iron oxide coated ceramic membranes. *Journal of materials science*, *41*(20), 6861-6870.

Khulbe, K. C., Kruczek, B., Chowdhury, G., Gagne, S., & Matsuura, T. (1996). Surface morphology of homogeneous and asymmetric membranes made from poly (phenylene oxide) by tapping mode atomic force microscope. *Journal of applied polymer science*, *59*(7), 1151-1158.

Khare, A., Yadava, S. S., Mandal, K. D., & Mukhopadhyay, N. K. (2016). Effect of sintering duration on the dielectric properties of 0.9 $BaTiO_3$–0.1$CaCu_3Ti_4O_{12}$ nanocomposite synthesized by solid state route. *Microelectronic Engineering*, *164*, 1-6.

Kim, D. W., Kim, T. G., & Hong, K. S. (1999). Low-firing of CuO-doped anatase. *Materials research bulletin*, *34*(5), 771-781.

Kai, C., Wei, L., Yun-Fei, L., Peng, B., Xiao-Mei, L., & Jin-Song, Z. (2004). Investigation of the size effect on the giant dielectric constant of $CaCu_3Ti_4O_{12}$ ceramic. *Chinese Physics Letters*, *21*(9), 1815.

Kumar, A., Singh, B. P., Choudhary, R. N. P., & Thakur, A. K. (2006). Characterization of electrical properties of Pb-modified $BaSnO_3$ using impedance spectroscopy. *Materials chemistry and physics*, *99*(1), 150-159.

Lemanov, V. V., Sotnikov, A. V., Smirnova, E. P., Weihnacht, M., & Kunze, R. (1999). Perovskite $CaTiO_3$ as an incipient ferroelectric. *Solid State Communications*, *110*(11), 611-614.

Leapman, R. D., Grunes, L. A., & Fejes, P. L. (1982). Study of the L 23 edges in the 3 d transition metals and their oxides by electron-energy-loss spectroscopy with comparisons to theory. *Physical Review B*, *26*(2), 614.

Lytle, F. W. (1964). X-Ray Diffractometry of Low-Temperature Phase Transformations in Strontium Titanate. *Journal of Applied Physics*, *35*(7), 2212-2215.

Löhnert, R., Bartsch, H., Schmidt, R., Capraro, B., & Töpfer, J. (2015). Microstructure and electric properties of $CaCu_3Ti_4O_{12}$ multilayer capacitors. *Journal of the American Ceramic Society*, *98*(1), 141-147.

Liu, J., Duan, C. G., Yin, W. G., Mei, W. N., Smith, R. W., & Hardy, J. R. (2004). Large dielectric constant and Maxwell-Wagner relaxation in $Bi_{2/3}Cu_3Ti_4O_{12}$. *Physical review B*, *70*(14), 144106.

Li, J., Liang, P., Yi, J., Chao, X., & Yang, Z. (2015). Phase formation and enhanced dielectric response of $Y_{2/3}Cu_3Ti_4O_{12}$ ceramics derived from the sol–gel process. *Journal of the American Ceramic Society*, *98*(3), 795-803.

Lines, M. E., & Glass, A. M. (1977). *Principles and applications of ferroelectrics and related materials*. Oxford university press.

Liu, G., & Roseman, R. D. (1999). Effect of BaO and SiO_2 addition on PTCR $BaTiO_3$ ceramics. *Journal of Materials science*, *34*(18), 4439-4445.

Lee, Y. C., Lu, W. H., Wang, S. H., & Lin, C. W. (2009). Effect of SiO_2 addition on the dielectric properties and microstructure of $BaTiO_3$-based ceramics in reducing sintering. *International Journal of Minerals, Metallurgy and Materials*, *16*(1), 124-127.

Lu, H., Lin, Y., Yuan, J., Nan, C., & Chen, K. (2013). Dielectric and varistor properties of rare-earth-doped ZnO and $CaCu_3Ti_4O_{12}$ composite ceramics. *Journal of Advanced Dielectrics*, *3*(01), 1350001.

Lunkenheimer, P., Bobnar, V., Pronin, A. V., Ritus, A. I., Volkov, A. A., & Loidl, A. (2002). Origin of apparent colossal dielectric constants. *Physical Review B*, *66*(5), 052105.

Lunkenheimer, P., Fichtl, R., Ebbinghaus, S. G., & Loidl, A. (2004). Nonintrinsic origin of the colossal dielectric constants in $CaCu_3Ti_4O_{12}$. *Physical review B*, *70*(17), 172102.

Li, M., Chen, X. L., Zhang, D. F., Wang, W. Y., & Wang, W. J. (2010). Humidity sensitive properties of pure and Mg-doped $CaCu_3Ti_4O_{12}$. *Sensors and Actuators B: Chemical*, *147*(2), 447-452.

Li, W., & Schwartz, R. W. (2007). Maxwell-Wagner relaxations and their contributions to the high permittivity of calcium copper titanate ceramics. *Physical Review B*, *75*(1), 012104.

Megaw, H. D. (1946). Crystal structure of double oxides of the perovskite type. *Proceedings of the Physical Society*, *58*(2), 133.

Marques, A. C. L. S. (2009). Advanced Si pad detector development and $SrTio_3$ studies by emission channeling and hyperfine interaction experiments.

Matthias, B. T. (1949). Ferro-electric Properties of WO_3. *Physical Review*, *76*(3), 430.

Mandal, K. D., Rai, A. K., Kumar, D., & Parkash, O. (2009). Dielectric properties of the $Ca_{1-x}La_xCu_3Ti_{4-x}Co_xO_{12}$ system (x = 0.10, 0.20 and 0.30) synthesized by semi-wet route. *Journal of Alloys and Compounds*, *478*(1), 771-776.

Müller, K. A., & Burkard, H. (1979). $SrTiO_3$: An intrinsic quantum paraelectric below 4 K. *Physical Review B*, *19*(7), 3593.

Marks, G. W., & Monson, L. A. (1955). Effect of certain group IV oxides on dielectric constant and dissipation factor of barium titanate. *Industrial & Engineering Chemistry*, *47*(8), 1611-1620

McEvoy, M. A., & Correll, N. (2015). Materials that couple sensing, actuation, computation, and communication. *Science*, *347*(6228), 1261689.

Moulson, A. J., & Herbert, J. M. (2003). *Electroceramics: materials, properties, applications*. John Wiley & Sons.

Mu, C., Zhang, H., He, Y., Shen, J., & Liu, P. (2009). Influence of dc bias on the dielectric relaxation in Fe-substituted $CaCu_3Ti_4O_{12}$ ceramics: grain boundary and surface effects. *Journal of Physics D: Applied Physics*, *42*(17), 175410.

Mishra, R. K., Choudhary, R. N. P., & Thakur, A. K. (2008). Preparation and analysis of single-phase Pb $(Mn_{1/2}Nb_{1/2})O_3$. *Journal of Alloys and Compounds*, *457*(1), 490-497.

Moriya, Y., Kawaji, H., Tojo, T., & Atake, T. (2003). Low Temperature Heat Capacity and Dielectric Relaxation in $CaCu_3Ti_4O_{12}$ Ceramics. *Transactions-materials research society of japan*, *28*(1), 137.

Newnham, R. E. (1983). Structure-property relations in ceramic capacitors. *J Mater Educ*, *5*, 947-82.

Nalwa, H. S. (Ed.). (1999). *Handbook of low and high dielectric constant materials and their applications, two-volume set*. Academic Press.

Norezan, I., Yahya, A. K., & Talari, M. K. (2012). Effect of $(Ba_{0.6}Sr_{0.4})TiO_3$ (BST) doping on dielectric properties of $CaCu_3Ti_4O_{12}$ (CCTO). *Journal of Materials Science & Technology*, *28*(12), 1137-1144.

Ohtsu, N., Sato, K., Yanagawa, A., Saito, K., Imai, Y., Kohgo, T., & Hanawa, T. (2007). $CaTiO_3$ coating on titanium for biomaterial application—Optimum thickness and tissue response. *Journal of Biomedical Materials Research Part A*, *82*(2), 304-315.

Prakash, B. S., & Varma, K. B. R. (2006). Microstructural and dielectric properties of donor doped (La^{3+}) $CaCu_3Ti_4O_{12}$ ceramics. *Journal of Materials Science: Materials in Electronics*, *17*(11), 899-907.

Parkash, O., Kumar, D., Goyal, A., Agrawal, A., Mukherjee, A., Singh, S., & Singh, P. (2008). Electrical behaviour of zirconium doped calcium copper titanium oxide. *Journal of Physics D: Applied Physics*, *41*(3), 035401.

Prasad, C. D., Parkash, O., & Kumar, D. (1988). Electrical properties of $La_{1-x}Pb_xCo_{1-x}Ti_xO_3$ (x= 0.05 and 0.10). *Journal of materials science letters*, *7*(7), 789-790.

Parkash, O., Pandey, L., Tewari, H. S., Tare, V. B., & Kimar, D. (1990). Dielectric relaxator behaviour of $Sr_{0.8}La_{0.2}Ti_{0.8}Co_{0.2}O_3$. *Ferroelectrics*, *102*(1), 203-211.

Pecharroman, C., Esteban-Betegon, F., Bartolome, J. F., Lopez-Esteban, S., & Moya, J. S. (2001). New Percolative $BaTiO_3$–Ni Composites with a High and Frequency-Independent Dielectric Constant ($\varepsilon_r \approx 80000$). *Advanced Materials*, *13*(20), 1541-1544.

Ponce, M. A., Ramirez, M. A., Schipani, F., Joanni, E., Tomba, J. P., & Castro, M. S. (2015)

Electrical behavior analysis of n-type $CaCu_3Ti_4O_{12}$ thick films exposed to different atmospheres. *Journal of the European Ceramic Society*, *35*(1), 153-161.

Prakash, B. S., & Varma, K. B. R. (2007). Influence of sintering conditions and doping on the dielectric relaxation originating from the surface layer effects in $CaCu_3Ti_4O_{12}$ ceramics. *Journal of Physics and Chemistry of Solids*, *68*(4), 490-502.

Park, S. E., & Shrout, T. R. (1997). Ultrahigh strain and piezoelectric behavior in relaxor based ferroelectric single crystals. *Journal of Applied Physics*, *82*(4), 1804-1811.

Rai, A.K., Mandal, K.D., Kumar, D., & Parkash, O. (2009). Dielectric properties of lanthanum-doped $CaCu_3Ti_4O_{12}$ synthesized by semi-wet route. *Journal of Physics and Chemistry of Solids*, *70*(5), 834-839.

Rai, A. K., Mandal, K. D., Kumar, D., & Parkash, O. (2009). Dielectric properties of lanthanum-doped $CaCu_3Ti_4O_{12}$ synthesized by semi-wet route. *Journal of Physics and Chemistry of Solids*, *70*(5), 834-839.

Raj, R., Kaushik, A., & Kundu, R. Theoretical aspects about bright future of polymer nano-composites in mechanical engineering.

Ramirez, A. P., Subramanian, M. A., Gardel, M., Blumberg, G., Li, D., Vogt, T., & Shapiro, S. M. (2000). Giant dielectric constant response in a copper-titanate. *Solid State Communications*, *115*(5), 217-220.

Reaney, I. M., & Ubic, R. (2000). Talking microwaves: A review of ceramics at the heart of the telecommunications network. *Int. Ceram*, *1*, 48-52.

Ryu, J., Priya, S., Uchino, K., & Kim, H. E. (2002). Magnetoelectric effect in composites of magnetostrictive and piezoelectric materials. *Journal of electroceramics*, *8*(2), 107-119.

Rawat, M., Yadav, K. L., Kumar, A., Patel, P. K., Adhlakha, N., & Rani, J. (2012). Structural, dielectric and conductivity properties of Ba_2+ doped $(Bi_{0.5}Na_{0.5})$ TiO_3 ceramic. *Advanced Materials Letters*, *3*(4), 286-292.

Rödel, J., Kounga, A. B., Weissenberger-Eibl, M., Koch, D., Bierwisch, A., Rossner, W., & Schneider, G. (2009). Development of a roadmap for advanced ceramics: 2010–2025. *Journal of the European Ceramic Society*, *29*(9), 1549-1560.

Raihan, R., Adkins, J. M., Baker, J., Rabbi, F., & Reifsnider, K. (2014). Relationship of dielectric property change to composite material state degradation. *Composites Science and Technology*, *105*, 160-165.

Raihan, R., Adkins, J. M., Baker, J., Rabbi, F., & Reifsnider, K. (2014). Relationship of dielectric property change to composite material state degradation. *Composites Science and Technology*, *105*, 160-165.

Shao, S. F., Zhang, J. L., Zheng, P., & Wang, C. L. (2007). Effect of Cu-stoichiometry on the dielectric and electric properties in $CaCu_3Ti_4O_{12}$ ceramics. *Solid state communications*, *142*(5), 281-286.

Sawaguchi, E., & Kikuchi, A. (1962). Dielectric constant of strontium titanate at low temperatures. *Journal of the Physical Society of Japan*, *17*(10), 1666-1667.

Subramanian, M. A., Li, D., Duan, N., Reisner, B. A., & Sleight, A. W. (2000). High dielectric constant in $ACu_3Ti_4O_{12}$ and $ACu_3Ti_3FeO_{12}$ phases. *Journal of Solid State Chemistry*, *151*(2), 323-325.

Sulaiman, M. A., Hutagalung, S. D., Ain, M. F., & Ahmad, Z. A. (2010). Dielectric properties of Nb-doped $CaCu_3Ti_4O_{12}$ electroceramics measured at high frequencies. *Journal of Alloys and Compounds*, *493*(1), 486-492

Szwagierczak, D. (2009). Dielectric behavior of $Bi_{2/3}Cu_3Ti_4O_{12}$ ceramic and thick films. *Journal of electroceramics*, *23*(1), 56-61.

Subramanian, M. A., Li, D., Duan, N., Reisner, B. A., & Sleight, A. W. (2000). High dielectric constant in $ACu_3Ti_4O_{12}$ and $ACu_3Ti_3FeO_{12}$ phases. *Journal of Solid State Chemistry*, *151*(2), 323-325.

Singh, L., Rai, U. S., Mandal, K. D., & Singh, N. B. (2014). Progress in the growth of $CaCu_3Ti_4O_{12}$ and related functional dielectric perovskites. *Progress in Crystal Growth and Characterization of Materials*, *60*(2), 15-62.

Subramanian, M. A., Li, D., Duan, N., Reisner, B. A., & Sleight, A. W. (2000). High dielectric constant in $ACu_3Ti_4O_{12}$ and $ACu_3Ti_3FeO_{12}$ phases. *Journal of Solid State Chemistry*, *151*(2), 323-325.

Sabóia, K. D. A., Fechine, P. B. A., Santos, M. R. P., Freire, F. N. A., Pereira, F. M. M., & Sombra, A. S. B. (2007). Composite screen-printed thick films for high dielectric constant devices: $Bi_4Ti_3O_{12}$–$CaCu_3Ti_4O_{12}$ films. *Polymer Composites*, *28*(6), 771-777.

Subramanian, M. A., Li, D., Duan, N., Reisner, B. A., & Sleight, A. W. (2000). High dielectric constant in $ACu_3Ti_4O_{12}$ and $ACu_3Ti_3FeO_{12}$ phases. *Journal of Solid State Chemistry*, *151*(2), 323-325.

Szwagierczak, D. (2009). Dielectric behavior of $Bi_{2/3}Cu_3Ti_4O_{12}$ ceramic and thick films. *Journal of electroceramics*, *23*(1), 56-61.

Singh, L., Rai, U. S., Mandal, K. D., Sin, B. C., Lee, H. I., Chung, H., & Lee, Y. (2014). Comparative dielectric studies of nanostructured $BaTiO_3$, $CaCu_3Ti_4O_{12}$ and 0.5 $BaTiO_3$·0.5 $CaCu_3Ti_4O_{12}$ nano-composites synthesized by modified sol–gel and solid state methods. *Materials Characterization*, *96*, 54-62.

Singh, L., Rai, U. S., Mandal, K., Sin, B. C., Lee, S. I., & Lee, Y. (2014). Dielectric, AC-impedance, modulus studies on $0.5BaTiO_3$·$0.5CaCu_3Ti_4O_{12}$ nano-composite ceramic synthesized by one-pot, glycine-assisted nitrate-gel route. *Ceramics International*, *40*(7), 10073-10083.

Singh, L., Rai, U. S., & Mandal, K. D. (2013). Dielectric, modulus and impedance spectroscopic studies of nanostructured $CaCu_{2.70}$ $Mg_{0.30}Ti_4O_{12}$ electro-ceramic synthesized by modified sol–gel route. *Journal of Alloys and Compounds*, *555*, 176-183.

Subramanian, M. A., Li, D., Duan, N., Reisner, B. A., & Sleight, A. W. (2000). High dielectric constant in $ACu_3Ti_4O_{12}$ and $ACu_3Ti_3FeO_{12}$ phases. *Journal of Solid State Chemistry*, *151*(2), 323-325.

Singh, L., Rai, U. S., & Mandal, K. D. (2011). Preparation and characterization of nanostructured $CaCu_{2.90}$Zn0. $10Ti_4O_{12}$ ceramic. *Nanomaterials and nanotechnology*, *1*, 20.

Singh, L., Rai, U. S., & Mandal, K. D. (2013). Dielectric properties of zinc doped nanocrystalline calcium copper titanate synthesized by different approach. *Materials Research Bulletin*, *48*(6), 2117-2122.

Singh, L., Rai, U. S., Mandal, K. D., & Singh, N. B. (2014). Progress in the growth of $CaCu_3Ti_4O_{12}$ and related functional dielectric perovskites. *Progress in Crystal Growth and Characterization of Materials*, *60*(2), 15-62.

Shao, S. F., Zhang, J. L., Zheng, P., Zhong, W. L., & Wang, C. L. (2006). Microstructure and electrical properties of $CaCu_3Ti_4O_{12}$ ceramics. *Journal of applied physics*, *99*(8), 084106.

Singh, L., Rai, U. S., & Mandal, K. D. (2013). Dielectric, modulus and impedance spectroscopic studies of nanostructured $CaCu_{2.70}Mg_{0.30}Ti_4O_{12}$ electro-ceramic synthesized by modified sol–gel route. *Journal of Alloys and Compounds*, *555*, 176-183.

Singh, L., Yadava, S. S., Woo, W. S., Rai, U. S., Mandal, K. D., Sin, B. C., & Lee, Y. (2016). Structural, impedance, and modulus spectroscopic studies on $Y_{2/3}Cu_3Ti_{3.95}In_{0.05}O_{12}$ polycrystalline material prepared by flame synthesis method. *Applied Spectroscopy Reviews*, *51*(7-9), 735-752.

Singh, L., Rai, U. S., & Mandal, K. D. (2013). Dielectric properties of zinc doped nanocrystalline calcium copper titanate synthesized by different approach. *Materials Research Bulletin*, *48*(6), 2117-2122.

Singh, L., Rai, U. S., Mandal, K. D., Sin, B. C., Lee, H. I., Chung, H., & Lee, Y. (2014). Comparative dielectric studies of nanostructured $BaTiO_3$, $CaCu_3Ti_4O_{12}$ and 0.5 $BaTiO_3$·0.5

$CaCu_3Ti_4O_{12}$ nano-composites synthesized by modified sol–gel and solid state methods. *Materials Characterization, 96*, 54-62.

Singh, L., Rai, U. S., & Mandal, K. D. (2011). Preparation and characterization of nanostructured $CaCu_{2.90}Zn0.\ 10Ti_4O_{12}$ ceramic. *Nanomaterials and nanotechnology*, *1*, 20.

Trivedi, M., Solanki, M. S., & Benjamin, R. S. (2015). Use Of Cu-C-Tio_2 In Dye Sensitized Solar Cell. *International Journal of Scientific & Technology Research*, *4*(7), 135-140.

Wood, E. A. (1951). Polymorphism in potassium niobate, sodium niobate, and other ABO_3 compounds. *Acta Crystallographica*, *4*(4), 353-362.

Waku, S. (1971). Classification and dielectric characteristics of the boundary layer ceramic dielectrics (BL dielectrics). *Rev Elect Commun Lab*, 665-679.

Warangkanagool, C., & Rujijanagul, G. (2012). Improvement in dielectric and mechanical performance of $CaCu_{3.1}Ti_4O_{12}$. 1 by addition of Al_2O_3 nanoparticles. *Nanoscale research letters*, *7*(1), 68.

Wang, M. H., Zhou, F., Wang, Q. L., & Yao, C. (2012). Synthesis of $CaCu_3Ti_4O_{12}$ powders and ceramics by sol-gel method using decanedioic acid and its dielectric properties. *Journal of Central South University*, *19*(12), 3385-3389.

Yu, H., Liu, H., Hao, H., Luo, D., & Cao, M. (2008). Dielectric properties of $CaCu_3Ti_4O_{12}$ ceramics modified by $SrTiO_3$. *Materials Letters*, *62*(8), 1353-1355.

Yadava, S. S., Khare, A., Gautam, P., Singh, L., Lee, Y., & Mandal, K. D. (2016). Dielectric, ferroelectric and magnetic properties of hexagonal $Ba_6Y_2Ti_4O_{17}$ (BYTO) perovskite derived from semi wet route. *RSC Advances*, *6*(106), 104941-104948.

Yadava, S. S., Khare, A., Gautam, P., Singh, L., Lee, Y., & Mandal, K. D. (2016). Dielectric, ferroelectric and magnetic properties of hexagonal $Ba_6Y_2Ti_4O_{17}$ (BYTO) perovskite derived from semi wet route. *RSC Advances*, *6*(106), 104941-104948.

Yang, Z., Liang, P., Yang, L., Shi, P., Chao, X., & Yang, Z. (2015). Synthesis, dielectric properties of $Bi_{2/3}Cu_3Ti_4O_{12}$ ceramics by the sol–gel method. *Journal of Materials Science: Materials in Electronics*, *26*(3), 1959-1968.

Yadava, S. S., Singh, L., Sharma, S., Mandal, K. D., & Singh, N. B. (2016). Effect of temperature on the dielectric and ferroelectric properties of a nanocrystalline hexagonal $Ba_4YMn_3O_{11.5-\delta}$ ceramic synthesized by a chemical route. *RSC Advances*, *6*(72), 68247-68253.

Yadava, S. S., Khare, A., Gautam, P., Singh, L., Lee, Y., & Mandal, K. D. (2016). Dielectric, ferroelectric and magnetic properties of hexagonal $Ba_6Y_2Ti_4O_{17}$ (BYTO) perovskite derived from semi wet route. *RSC Advances*, *6*(106), 104941-104948.

Yan, Y., Jin, L., Feng, L., & Cao, G. (2006). Decrease of dielectric loss in giant dielectric constant $CaCu_3Ti_4O_{12}$ ceramics by adding $CaTiO_3$. *Materials Science and Engineering: B*, *130*(1), 146-150.

Yu, H., Liu, H., Hao, H., Luo, D., & Cao, M. (2008). Dielectric properties of $CaCu_3Ti_4O_{12}$ ceramics modified by $SrTiO_3$. *Materials Letters*, *62*(8), 1353-1355.

Yadava, S. S., Singh, L., Sharma, S., Mandal, K. D., & Singh, N. B. (2016). Effect of temperature on the dielectric and ferroelectric properties of a nanocrystalline hexagonal Ba 4 $YMn_3O_{11.5-\delta}$ ceramic synthesized by a chemical route. *RSC Advances*, *6*(72), 68247-68253.

Yadav, A. K., & Gautam, C. (2014). Dielectric behavior of perovskite glass ceramics. *Journal of Materials Science: Materials in Electronics*, *25*(12), 5165-5187.

Yang, Y., Yang, H., Lin, Y., & Liu, M. (2014). Dielectric and magnetic properties of $Ba_{0.8}Sr_{0.2}TiO_3$–$Y_3Fe_5O_{12}$–$YFeO_3$ composites. *International Journal of Materials Research*, *105*(5), 512-515.

Yan, Y., Jin, L., Feng, L., & Cao, G. (2006). Decrease of dielectric loss in giant dielectric constant $CaCu_3Ti_4O_{12}$ ceramics by adding $CaTiO_3$. *Materials Science and Engineering: B*, *130*(1), 146-150.

Yu, H., Liu, H., Hao, H., Luo, D., & Cao, M. (2008). Dielectric properties of $CaCu_3Ti_4O_{12}$ ceramics modified by $SrTiO_3$. *Materials Letters*, *62*(8), 1353-1355.

Yuan, W. X., Hark, S. K., & Mei, W. N. (2010). Investigation of triple extrinsic origins of colossal dielectric constant in $CaCu_3Ti_4O_{12}$ ceramics. *Journal of The Electrochemical Society*, *157*(5), G117-G120.

Yakel, H. L. (1955). On the structures of some compounds of the perovskite type. *Acta Crystallographica*, *8*(7), 394-398.

Yuan, W. X., Hark, S. K., & Mei, W. N. (2010). Investigation of triple extrinsic origins of colossal dielectric constant in $CaCu_3Ti_4O_{12}$ ceramics. *Journal of The Electrochemical Society*, *157*(5), G117-G120.

Yan, Y., Jin, L., Feng, L., & Cao, G. (2006). Decrease of dielectric loss in giant dielectric constant $CaCu_3Ti_4O_{12}$ ceramics by adding $CaTiO_3$. *Materials Science and Engineering: B*, *130*(1), 146-150.

Yu, H., Liu, H., Hao, H., Luo, D., & Cao, M. (2008). Dielectric properties of $CaCu_3Ti_4O_{12}$ ceramics modified by $SrTiO_3$. *Materials Letters*, *62*(8), 1353-1355.

Yadav, A. K., & Gautam, C. (2014). Dielectric behavior of perovskite glass ceramics. *Journal of Materials Science: Materials in Electronics*, *25*(12), 5165-5187.

Yadava, S. S., Khare, A., Gautam, P., Singh, L., Lee, Y., & Mandal, K. D. (2016). Dielectric, ferroelectric and magnetic properties of hexagonal $Ba_6Y_2Ti_4O_{17}$ (BYTO) perovskite derived from semi wet route. *RSC Advances*, *6*(106), 104941-104948.

Yang, Z., Liang, P., Yang, L., Shi, P., Chao, X., & Yang, Z. (2015). Synthesis, dielectric properties of $Bi_{2/3}Cu_3Ti_4O_{12}$ ceramics by the sol–gel method. *Journal of Materials Science: Materials in Electronics*, *26*(3), 1959-1968.

Zhi, J., Chen, A., Zhi, Y., Vilarinho, P. M., & Baptista, J. L. (1999). Incorporation of yttrium in barium titanate ceramics. *Journal of the American Ceramic Society*, *82*(5), 1345-134.

Zheng, S., Shi, D., Liu, L., Li, G., Wang, Q., Fang, L., & Elouadi, B. (2014). Oxygen vacancy-related dielectric relaxation and electrical conductivity in La-doped $Ba(Zr_{0.9}Ti_{\mathbf{0.1}})O_{\mathbf{3}}$ ceramics. *Journal of Materials Science: Materials in Electronics*, *25*(9), 4058-4065.