

Referências bibliográficas

AKEDO, K. et al. Highly Insulated SrTiO₃ Thin Films. In: IIT'98 1998 International Conference on Ion Implantation Technology, Kyoto, 1998. **Proceedings...** Kyoto, Japão: IEEE/Japan Electron Devices Society, dez. 1999.

ANG, C. et al. Dielectric Relaxation and Conduction in SrTiO₃ Thin Films under DC Bias. **Applied Physics Letters**, vol. 79, n. 6, p. 818-820, ago. 2001.

SHARMA, H. B.; MANSINGH, A. Sol-Gel Processed Ferroelectric Barium Titanate Thin Films and Ceramics. ISAF '94, Ninth IEEE International Symposium on Applications of Ferroelectrics, Pennsylvania, 1994. **Proceedings...** Pennsylvania: IEEE/Pennsylvania State University, p. 457-459, 1995.

BROWN, F. High Dielectric Constant Ceramics. **IRE Transactions on Component Parts**, vol. 6, n. 4, p. 238-251, dez. 1959.

CALLISTER Jr., W.D. **Fundamentals of Materials Science and Engineering**. 5. ed. New York: John Wiley & Sons, Inc., 2001. 524 p. ISBN 0-471-39551-X.

CALLISTER, W.D. **Materials Science and Engineering: An Introduction**. 7. ed. New York: John Wiley & Sons, Inc., 2007. 832 p. ISBN: 978-0-471-73696-7.

CARROLL, K.R. et al. Microwave Measurement of the Dielectric Constant of Sr_{0.5}Ba_{0.5}TiO₃ Ferroelectric Thin Films. **Applied Physics Letters**, v. 62, n. 15, p. 1845-1847, abr. 1993.

CARVALHO, M.C.R. Transmission Line Transformer. **Electronics Letters**, vol. 27, n. 2, p. 138-139, jan. 1991.

CARVALHO, M.C.R.; MARGULIS, W. Laser Diode Pumping with a Transmission Line Transformer. **IEEE Microwave and Guided Wave Letters**, vol. 1, n. 12, p. 368-370, dez. 1991.

CARVALHO, M.C.R. **Estudo Sobre Lasers Semicondutores em Regime de Picosegundo**. 1991. 256 f. Tese (Doutorado em Engenharia Elétrica) – Departamento de Engenharia Elétrica, Pontifícia Universidade Católica de Rio de Janeiro, Rio de Janeiro.

CARVALHO, M.C.R.; MARGULIS, W.; SOUZA, J.R. A New, Small-Sized Transmission Line Impedance Transformer, with Applications in High-Speed Optoelectronics. **IEEE Microwave and Guided Wave Letters**, vol. 2, n. 11, p. 428-430, nov. 1992.

CARVALHO, M.C.R. et al. Propagation Characteristics of Transmission Line Transformers with Different Impedance Variation Patterns on Substrates with Very High Dielectric Constant. **Microwave and Optical Technology Letters**, vol. 37, n. 3, p. 174-177, mai. 2003.

CHANG, T.Y. Design and optimization of low-impedance high-speed optical modulators for digital performance. **Journal of Lightwave Technology**, vol. 23, n.12, p. 4321- 4331, dez. 2005.

CHANG, W. et al. (Ba,Sr)TiO₃ Ferroelectric Thin Films for Tunable Microwave Applications. **Revista Mexicana de Física**, vol. 50, n. 5, p. 501–505, out. 2004.

CHEN, L.F. et al. **Microwave Electronics: Measurement and Materials Characterization**. West Sussex (England): John Wiley & Sons, Ltd, 2004. 537 p. ISBN: 0-470-84492-2.

CHENG, X.M.; LI, L.; LIU, X.Q. Layered Complex Structures of MgTiO₃ and CaTiO₃ Dielectric Ceramics. **Materials Science and Engineering - B99**, vol. 99, n. 1-3, p. 255–258, mai. 2003.

COLLIN, R.E. The Optimum Tapered Transmission Line Matching Section. **Proceedings of the IRE**, vol. 44, n. 4, p. 539-548, abr. 1956.

COLLIN, R.E. **Foundations for Microwave Engineering**. 2. ed. New Jersey: John Wiley & Sons, Inc., 1992. 924 p.

DEMENICIS, L. et al. A CPW Linear Resonator Method for the Microwave Characterization of High Dielectric Constant Films. **Microwave and Optical Technology Letters**, vol. 49, n. 3, p. 521-524, mar. 2007.

DEMENICIS, L. et al. Transmission Line Transformers in Multilayered High-Dielectric Constant Thin-Film Structures. **Microwave and Optical Technology Letters**, vol. 47, n. 3, p. 290-293, nov. 2005.

DEMENICIS, L. **Transformadores de Impedância Banda Larga para Dispositivos Optoeletrônicos**. 2004. 209 f. Tese (Doutorado em Engenharia Elétrica) – Departamento de Engenharia Elétrica, Pontifícia Universidade Católica de Rio de Janeiro, Rio de Janeiro.

DEMENICIS, L. et al. A CPW Linear Resonator Method for the Microwave Characterization of High Dielectric Constant Films. **Microwave and Optical Technology Letters**, vol. 49, n. 3, p. 521-524, mar. 2007.

FIEDZIUSZKO, S.J. et al. Dielectric Materials, Devices, and Circuits. **IEEE Transactions on Microwaves Theory and Techniques**, vol. 50, n. 3, p. 706-720, mar. 2002.

FINDIKOGLU, A.T. et al. Comparative Study of Broadband Electrodynamic Properties of Single-Crystal and Thin-Film Strontium Titanate. **Applied Physics Letters**, v. 75, n. 26, p. 4189- 4191, dez. 1999.

GALT, D.; RIVKINA T.; CROMER, M.W. Microwave Tuning Quality and Power Handling of Voltage-Tunable Capacitors: Semiconductor Varactors vs. $Ba_{1-x}Sr_xTiO_3$. In: 1977 Materials Research Society Fall Meeting, Boston, 1977. **Proceedings...** Boston: Materials Research Society, 1998, p. 341-347. 1998.

GEVORGIAN, S. et al. HTS/Ferroelectric Devices for Microwave Applications. **IEEE Transactions on Applied Superconductivity**, vol. 7, n. 2, p. 2458-2461, jun. 1997.

GEVORGIAN, S.; KOLLBERG, E.R. Do We Really Need Ferroelectrics in Paraelectric Phase Only in Electrically Controlled Microwave Devices? **IEEE Transactions on Microwave Theory and Techniques**, vol. 49, n. 11, p. 2117-2124, nov. 2001

GHIASI, A.; GOPINATH, A. Novel Wide-Bandwidth Matching Technique for Laser Diodes. **IEEE Transactions on Microwave Theory and Techniques**, vol. 38, n. 15, p. 673-675, mai. 1990.

GIBBONS, B J. et al. Electrically Tunable Microwave Devices Prepared by rf-Magnetron Sputtering. In: ISAF 2000, 12th International Symposium on Applications of Ferroelectrics, Honolulu, 2000. **Proceedings...** Honolulu: IEEE, 2000, vol. 1, p. 201-204.

GUILICK, M.; ROBERTSON, Ultra Low Impedance CPW Transmission Lines for Multilayer MMIC's. In: 1993 Microwave and Millimeter-Wave Monolithic Circuits Symposium, Atlanta, 1993. **Digest...** Atlanta, USA: Microwave Theory and Techniques Society, 1993, p. 127-130.

GUPTA, K.C. et al. **Microstrip Lines and Slotlines**. 2. ed. Washington: Artech House, 1996. 560 p.

HERNER S.B. et al. The Effect of Various Dopants on the Dielectric Properties of Barium Strontium Titanate, **Materials Letters**, vol. 15, n. 5-6, p. 317-324, jan. 1993.

HOFFMAN, R.K. **Handbook of Microwave Integrated Circuits**. Artech House, 1987, 527 p.

HONG, J-S; LANCASTER, M.J. **Microstrip Filters for RF-Microwave Applications**. New York: John Wiley & Sons, Inc, 2001. 457 p. ISBN: 0-471-38877-7.

HSIEH, M-L et al. A Miniaturized Bandpass Filter Fabricated on High Dielectric Constant Ceramic Substrates. **Microwave and Optical Technology Letters**, vol. 49, n. 9, p. 2087-2090, set. 2007.

HUANG, C-L.; WENG, M-H. Improved High Q Value of $MgTiO_3$ - $CaTiO_3$ Microwave Dielectric Ceramics at Low Sintering Temperature. **Materials Research Bulletin**, vol. 36, n. 15, p. 2741-2750, dez. 2001.

JACKSON, J.H. et al. Novel Monolithic Phase Shifter Combining Ferroelectrics and High Temperature Superconductors. **Microwave and Optical Technology Letters**, vol. 5, n. 14, p. 722–726, dez. 1992.

KAIN, A.Z. et al. Dielectric Properties of SrTiO₃ Thin Films at Low Temperature. **IEEE Transactions on Applied Superconductivity**, vol. 3, n. 1, parte 4, p. 1421-1424, mar. 1993.

KLOPFENSTEIN, R.W. A Transmission Line Taper of Improved Design. **Proceedings of the IRE**, vol. 44, n. 1, p. 31-35, jan. 1956.

KRETLY, L.C. et al. Dielectric Permittivity and Loss of CaCu₃Ti₄O₁₂ (CCTO) Substrates for Microwave Devices and Antennas. **Journal of Materials Science: Materials in Electronics**, vol. 15, n. 10, p. 657–663, 2004.

KRISHNA PALUKURU, V.K. et al. Tunable Microwave Devices Using Low-Sintering-Temperature Screen-Printed Barium Strontium Titanate (BST) Thick Films. **Journal of the European Ceramic Society: Electroceramics XI Special Issue**, vol. 30, no. 2, p. 389–394, jan. 2010.

KURCHANIA, R. et al. An Investigation of BST:MgTiO₃ and X7R:MgTiO₃ Based Ceramics for Microwave Applications. In: 2004 IEEE International Ultrasonics, Ferroelectrics, and Frequency Control Joint 50th Anniversary Conference, 2004, Montreal. **Proceedings...** Montreal, Canadá: IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society, ago. 2004, p. 281-284.

LAHIRY, S. et al. Dielectric Properties of Sol-Gel Derived Barium-Strontium-Titanate (Ba_{0.4}Sr_{0.6}TiO₃) Thin Films. **IEEE Transaction on Ultrasonics, Ferroelectrics, and Frequency Control**, v. 47, n. 4, p. 854-859, jul. 2000.

LANCASTER, M.J.; POWELL, J.; PORCH, A. Thin-Film Ferroelectric Microwave Devices. **Superconductors Science and Technology**, vol. 11, n. 11, p. 1323–1334, 1998.

LI, L.; CHEN, X.M.; FAN X.C. Characterization of MgTiO₃–CaTiO₃-Layered Microwave Dielectric Resonators with TE₀₁₈ Mode, **Journal of American Ceramics Society**, vol. 89, n. 2, p. 557–561, 2006.

MARULANDA, J.I. et al. Characterization of Dielectric Properties of Screen-Printed MgTiO₃-CaTiO₃ Composite Thick Films in the Microwave Frequency Range. In: International Microwave and Optoelectronics Conference (IMOC), Belem, 2009. Proceedings... Belem, PA, Brasil: SBMO/IEEE MTT-S, p. 211-214.

MATTHAEI, G.L.; YOUNG, L.; JONES, E.M.T. **Microwave Filters, Impedance-Matching Networks, and Coupling Structures**. New Jersey: Artech House, 1985. 1096 p.

MAXIM. **Converting S-Parameters from 50Ω to 75Ω Impedance**. Application Note 2866, nov. 21, 2003. Disponível em: <<http://www.maxim-ic.com/an2866>>. Acesso em: 15 jun. 2010.

MOLITON, A. **Basic Electromagnetism and Materials**. New York: Springer, 2007. 430p.

MUSIC, H. et al. Low-Pass Impedance Matching Filters for Packaged Low-Cost Laser Diodes. **Microwave and Optical Technology Letters**, vol. 37, n. 3, p. 194-196, mai. 2003.

NAM, S.H.; KIM, H.G. The Effect of Heat Treatment on the SrTiO₃ Thin Films Prepared by Radio Frequency Magnetron Sputtering. **Journal of Applied Physics**, vol. 72, n. 7, p. 2895-2899, out. 1992.

NATH, et al. An Electronically Tunable Microstrip Bandpass Filter Using Thin-Film Barium–Strontium–Titanate (BST) Varactors. **IEEE Transactions on Microwaves Theory and Techniques**, vol. 53, n. 9, p. 2707-2712, set. 2005.

NISHITSUJI, M. et al. Advanced GaAs-MMIC Process Technology Using High-Dielectric Constant Thin Film Capacitors by Low-Temperature RF Sputtering Method. In: 15th Annual Gallium Arsenide Integrated Circuit (GaAs IC) Symposium, San Jose, 1993. **Digest...** San Jose, CA, USA: IEEE, 1993, p. 329-332.

PENNEBAKER, W.B. RF Sputtered Strontium Titanate Films. **IBM Journal of Research and Development**, vol. 13, n. 6, p. 686-695, nov. 1969.

PONTES, F.M. et al. Study of the Dielectric and Ferroelectric Properties of Chemically Processed BaSrTiO₃ Thin Films. **Thin Solid Films**, vol. 386, p. 91-98. 2001.

PONTES, F.M. et al. Dielectric properties and microstructure of SrTiO₃/BaTiO₃ multilayer thin films prepared by a chemical route. **Thin Solid Films**, vol. 385, n. 1-2, p. 260-265, dezembro. 2001.

POWELL, J.R. et al. Laser Ablated Ferroelectric and Superconducting Thin Films for Microwave Applications. In: IEE Colloquium on Superconducting Microwave Circuits, London, 1996. **Proceedings...** London: IEE, p. 7/1-7/5, abr. 1996.

POZAR, D.M. **Microwave Engineering**. 2. ed. New York: John Wiley & Sons, Inc., 1998. 716 p.

RADHAKRISHNAN, K. et al. Preparation and characterization of RF-Sputtered SrTiO₃ Thin Films. **Journal of Vacuum Science and Technology A**, vol. 18, n. 4, p. 3390-3396, jul./ago. 2000.

REANEY, I.M.; IDDLES, D. Microwave dielectric ceramics for resonators and filters in mobile phone networks. **Journal of the American Ceramic Society**, vol. 89, n. 7, pp. 2063–2072, jul. 2006.

RUPPRECHT, G.; BELL, R.O. Microwave Losses in Strontium Titanate Above the Phase Transition. **Physical Review**, vol. 125, n. 6p. 1915-1920, mar. 1962.

SAIFI, M.A.; CROSS, L.E. Dielectric Properties of Strontium Titanate at Low Temperature. **Physical Review B**, vol. 2, n. 3. p. 677-684, ago. 1970.

SANTOS, M.R.P. et al. Síntese e estudo das propriedades dielétricas dos compósitos $[x]\text{CaTiO}_3 - [1-x]\text{MgTiO}_3$. In: XXVI Encontro de Físicos do Norte e Nordeste, Recife, 2008. **Proceedings...** Recife-PE, Brasil: Sociedade Brasileira de Física, 2008, ID: 774-1.

SEIXAS, D.L.A.; CONRADO, L.F.M.; CARVALHO, M.C.R. Theoretical Investigations on the Propagation Characteristics of Transmission Lines on Substrates with Very High Dielectric Constant. **Microwave and Optical Technology Letters**, v. 32, n. 4, p. 275-278, fev. 2002.

SETTER, N.D. et al. Ferroelectric Thin Films: Review of Materials, Properties, and Applications. **Journal of Applied Physics**, vol. 100, n. 5, p. 051606-051606-46, 2006.

SEYBOLD, J.S. **Introduction to RF Propagation**. New Jersey: John Wiley & Sons, Inc., 2005. 330 p.

SHAW, T.M. et al. The Effect of Stress on the Dielectric Properties of Barium Strontium Titanate Thin Films. **Applied Physics Letters**, v. 75, n. 14, p. 2129-2131, out. 1999.

SHIM, S.H., et al., Microwave Characteristics of $\text{MgTiO}_3\text{-CaTiO}_3$ Dielectric Ceramics Fabricated Using Spark Plasma Sintering. **Japanese Journal of Applied Physics**, vol. 44, n. 7A, p. 5073-5075, jul. 2005.

SIMONS, R.N. **Coplanar Waveguide Circuits, Components, and Systems**. New York: John Wiley & Sons, Inc., 2001. 439 p.

STOJANOVIC, B.D. et al. Barium Titanate Screen-Printed Thick Films. **Ceramics International**, vol. 28, n. 3, p. 293-298, 2002.

SU, B.; BUTTON, T.W. Interactions Between Barium Strontium Titanate (BST) Thick Films and Alumina Substrates. **Journal of European Ceramic Society**, vol. 21, n. 15, p. 2777-2781, 2001.

TAGANTSEV, A.K. et al. Ferroelectric Materials for Microwave Tunable Applications. **Journal of Electroceramics**, vol. 11, n. 1-2, p. 5-66, 2003.

TANABE, M.A. et al. Low-Impedance Coplanar Waveguide Using an SrTiO_3 Thin Film for GaAs Power MMIC's. **IEEE Transactions on Microwave Theory and Techniques**, vol. 48, n. 5, p. 872-874, mai. 2000.

TANG, Y.P.; LI, Z. Transient Analysis of Tapered Transmission Lines Used as Transformers for Short Pulses. **IEEE Transactions on Microwave Theory and Techniques**, vol. 43, n. 11, p. 2573-2578, nov. 1995.

TAYLOR, T.R. et al. Influence of Stoichiometry on the Dielectric Properties of Sputtered Strontium Titanate Thin Films. **Journal of Applied Physics**, vol. 94, n. 5, p. 3390-3396, set. 2003.

TOMBAK, A. et al. Voltage-Controlled RF Filters Employing Thin-Film Barium–Strontium-Titanate Tunable Capacitors. **IEEE Transactions on Microwave Theory and Techniques**, vol. 51, n. 2, p. 462–467, 2003.

VAN KEULS, F.W. et al. Room Temperature Thin Film BaSrTiO₃ Ku-Band Coupled Microstrip Phase Shifters: Effects of Film Thickness, Doping, Annealing and Substrate Choice. In: 1999 IEEE MTT-S International Microwave Symposium Digest, Anaheim, 1999. **Digest...** Anaheim, CA, USA: Microwave Theory and Techniques Society, vol. 2, p. 737-740.

VENDIK, O.G. et al. 1GHz Tunable Resonator on Bulk Single Crystal SrTiO₃ Plated with YBa₂Cu₃O_{7-x} films. **Electronic Letters**, vol. 31, n. 8, p. 654-656, abr. 1995.

VENDIK, O.G. Modeling of Size Effect on Dielectric Response of Thin Ferroelectric Films. **Materials Physics and Mechanics**, vol. 1, p. 45-48, 2000.

VENDIK, O.G.; TER-MARTIROSYAN, L. T.; ZUBKO, S.P. Microwave Losses in Incipient Ferroelectrics as Functions of the Temperature and the Biasing Field. **Journal of Applied Physics**, vol. 84, n. 2, p. 993-998, jul. 1998.

VENDIK, O.G. et al. Ferroelectric Tuning of Planar and Bulk Microwave Devices. **Journal of Superconductivity**, vol. 12, n. 2, p. 325-338, fev. 1999.

VENDIK, O.G. Ferroelectric Thin Films in Microwave Technique: Physics, Characterization, and Tunable Devices. In: MSMW'04 The Fifth International Kharkov Symposium on Physics and Engineering of Microwaves, Millimeter, and Submillimeter Waves, Kharkov, 2004. **Proceedings...** Kharkov, Ucraina: IEEE, jun. 2004, p. 66-71.

WEIL, C. et al. Thick Film Ferroelectric Ceramics for Microwave Phase Shifters. **Institut fur Hochfrequenztechnik-TUD**, 2001.

WEIL, C. et al. Tunable Coplanar Waveguide Phase Shifters Using Ferroelectric Thick Films. **Institut fur Hochfrequenztechnik-TUD**, p. 83-88, 2001.

WOO, S.L. et al. Dielectric Properties of SrTiO₃ Thin Films Prepared by RF Sputtering. In: 6th International Conference on Properties and Applications of Dielectric Materials, ICPADM'2000, 2000, Xi'an. **Proceedings...**, Xi'an, China: Xi'an Jiaotong University, 2000, p. 888-890.

ZHANG, Q.; MCGINN, P.J. Characterization of Calcium Titanate Eutectic by Scanning Microwave Microscopy. **Journal of American Ceramics Society**, vol. 89, n. 12, p. 3817-3823, dez. 2006.