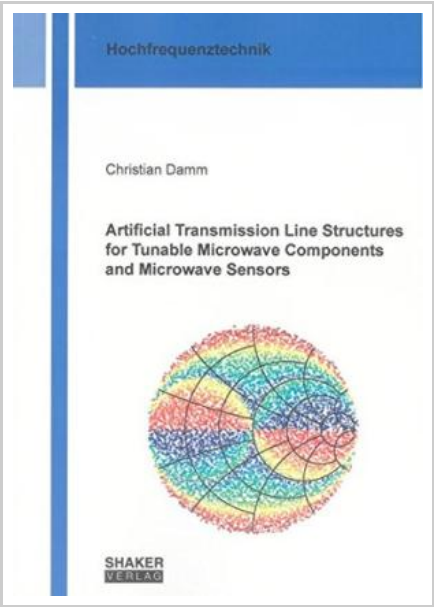


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Artificial Transmission Line Structures for Tunable Microwave Components and Microwave Sensors

By Christian Damm

Shaker Verlag Jul 2011, 2011. Taschenbuch. Book Condition: Neu. 211x146x17 mm. Neuware - This work presents the well-directed design of artificial transmission line structures for compact tunable passive components and sensors with high sensitivity in the microwave region. Theoretic principles are derived and proof of concept realizations are designed, built and characterized in the frequency range of 1GHz to 10GHz. The shown approaches and solutions are of general type and can be applied to a wide frequency range of a few MHz up to the THz region. The main focus is the realization of tunable artificial transmission line structures in planar technology. To achieve the feature of tunability, varactor diodes as a classic discrete RF tuning element are used as well as the specific integration of varactors based on continuously tunable bulk media. For this purpose, highly anisotropic liquid crystal (LC) material and ferroelectric thick films made of Barium-Strontium-Titanate (BST) are introduced into the artificial material designs. 208 pp. Englisch.

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Reviews

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