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Title:	Bio-based materials for microwave devices: A review.
Authors:	Krishnan, Sriram (/jspui/browse?type=author&value=Krishnan%2C+Sriram)
Keywords:	Bio-based green technology materials communication
Issue Date:	2021
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Citation:	Journal of Electronic Materials, 50(4), 1893-1921.
Abstract:	Modern wireless systems have tremendous applications in communication, medicine, defense, aerospace, remote sensing, tracking, astronomy, fashion, etc. These systems make heavy use of microwave components made of a substantial amount of non-degradable materials as dielectrics or insulators. These non-degradable materials are hazardous to the environment, and their recycling is expensive and difficult. To reduce this toxic contamination, it is vital to use efficient and low-cost bio-based materials as a replacement to the conventional non-degradable materials. This review focuses on the research that has been carried out on the microwave applications of both synthetic and natural bio-based materials. The discussion is presented under two broad categories, namely, microwave applications using biodegradable materials degradable by a biotic environment and using special bioresorbable material for bio-implants that may dissolve or be absorbed in the body. This review can facilitate new researchers with a comprehensive literature on green materials for communication systems. Also, it can assist in the selection and development of available bio-based materials for a wide range of radio-frequency (RF) and microwave applications.
Description:	Only IISER Mohali authors are available in the record.
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