

Modification of Polymer Composite Based on Electromagnetic Radiation

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Abstract : In today's era, polymer composite utilization has witnessed a significant increase across various fronts of material science advancement. Despite the development of many highly sophisticated technologies aimed at modifying polymer composites, there persists a quest for a technology that is straightforward, energy-efficient, easily controllable, cost-effective, time-saving, and environmentally friendly. Microwave technology has emerged as a major technique in material synthesis and modification due to its unique characteristics such as rapid, selective, uniform heating, and, particularly, direct heating based on molecular interaction. This study will be about the utilization of microwave energy as an alternative technique for material processing. Specifically, we will explore ongoing research conducted in our laboratory, focusing on its applications in the medical field.

Keywords : polymer composites, material processing, microstructure, microwave radiation

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