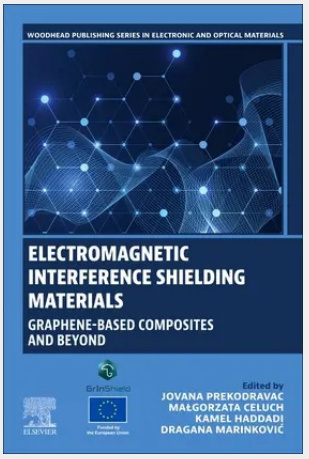
Filipovic / Celuch / Haddadi

Electromagnetic Interference Shielding Materials

Graphene-Based Composites and Beyond



Please note this is an Open Access title available via Science Direct. Electromagnetic Interference Shielding Materials: Graphene-Based Composites and Beyond offers a thorough, systematic overview of the advances made in research on composites-based materials for electromagnetic interference (EMI) shielding during the past several decades. The use of smartphones, wearable electronics, wi-fi, microwaves, and other smart devices is ubiquitous in modern life. All of these electronics emit electromagnetic waves (EMWs) that create electromagnetic pollution. EMWs can cause serious issues such as electromagnetic radiation, electromagnetic interference (EMI), and information leakage. There is an urgent need for inexpensive, environmentally friendly materials that can mitigate the effects of EMI, and this book provides a through investigation of the shielding capabilities of graphene and other novel nanomaterials. The current state of materials used in EMI shielding is discussed, together with synthesis and fabrication methods, relevant mechanisms, measurements, measuring devices, calculations, physicochemical properties, and applications. The book provides detailed analysis of carbon-based nanomaterials and their composites, including materials fabrication, characterization, and advanced application in EMI shielding. The beneficial effects of these new shielding materials will be relevant in the fields of telecommunications, the electronics industry, the automotive industry, ecology, healthcare, medicine, security, and military applications.

Auf Anfrage

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