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Editorial

# Waste-based Electromagnetic Interference (EMI) Shielding Design and Fabrication: Waste-to-Wealth

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Pollution from electromagnetic radiation has caused widespread concern, and some of its health effects have not yet been proven. The potential biological effects of these fields are causing concern among researchers and the general public. The International Commission on Non-Ionizing Radiation Protection and the National Radiation Research Institute emphasize one of the main environmental threats is the severe issue of radiation with electromagnetic fields and its harmful impact on public health.

As electronic information technology advances, electromagnetic radiation emission is rising and becoming more serious. Therefore, the evolution of new electromagnetic interference shielding materials with excellent performance is crucial. Around the world, researchers are also looking for new materials and innovations to use in the manufacture of electromagnetic shields. Metal plates, metal mesh, polymer nanocomposites, and electromagnetic cements are some examples of different forms of wave barriers or shields. Metal composites have the best EMI protection, but they have disadvantages, including high weight density, low flexibility, low corrosion resistance, and high surface reflection.[1] Polymer composites have properties such as lightness, excellent corrosion resistance, and chemical resistance.[2]

Yet still, the comparison between high protective efficiency and cost-effective implementation is not yet well-balanced. We believe that repurposing waste and enhancing its resistance to electromagnetic waves is a smart way to save materials and resources. The "Reduce, Reuse, and Recycle" waste hierarchy includes recycling as a crucial aspect[3]. Zeng et al. in 2020 and Vazhayal et al. in 2020, Ma et al. in 2019 referred to the term "waste to wealth" in their articles on Electromagnetic Interference Shielding.[4-6] Therefore, research can still be done in this direction. According to research, waste-based composites appear to be environmentally friendly, cost-effective, inexpensive, and suitable for mass production. Finally, researchers are advised to submit their research papers to the AOH Journal for publication in this journal.

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