

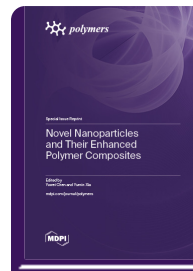
Special Issue Reprint

Novel Nanoparticles and Their Enhanced Polymer Composites

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The addition of functional fillers into a polymer matrix has been extensively explored and used in many applications, among which are electronics, medicine, aerospace, energy storage, sensors, etc. With the fast development of science and technology, novel particles and their composites with multiple functions have been invented to meet new requirements. Moreover, new manufacturing methods for preparing the particles and composites are also emerging. One challenge is to prepare high-performance or functional polymer composites with a low filler content employing an easy, scale-up approach. Another challenge is to integrate the function into the composite efficiently and subtly through a rational design of the particles or the particle distribution in the polymer matrix. This reprint aims to highlight the advances and cutting-edge technologies of particles and particle-reinforced functional polymer composites. Original research articles and reviews are included and the research areas encompass the synthesis and characterization of novel particles, novel manufacturing technology for particle-reinforced polymer composites, rational design of the distribution of particles in a polymer matrix, properties of composites enhanced by particles and multifunctional polymer composites.

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