





Special Issue Reprint

### **Advances in Electronic Ceramics**

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Recent advancements in electronic ceramics have revolutionized their role in modern technology, driven by innovations in material synthesis, processing techniques, and application-specific designs. Electronic ceramics, such as dielectric, piezoelectric, semiconductive, and ferroelectric materials, now exhibit enhanced performance metrics, including higher energy efficiency, superior thermal stability, and tailored electromagnetic properties. Breakthroughs in nanostructuring and additive manufacturing have enabled precise control over microstructures, resulting in ceramics with unprecedented dielectric constants, piezoelectric coefficients, and mechanical resilience. These materials are critical in next-generation applications like 5G communication systems, high-frequency sensors, energy storage devices, and solid-state batteries. Additionally, eco-friendly synthesis methods and the integration of ceramics with flexible substrates are expanding their use in wearable electronics and IoT devices. As research pushes the boundaries of multifunctional ceramics and hybrid composites, this field continues to underpin advancements in sustainable energy, smart infrastructure, and miniaturized electronic systems.





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