Advancements in Superconducting Materials

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Abstract. This article reviews recent advancements in superconducting materials, focusing on their improved critical temperatures and magnetic properties. The research highlights novel fabrication techniques that have led to the development of more efficient and robust superconductors, which hold promise for applications in energy transmission and magnetic resonance imaging (MRI).

Keywords: Superconducting Materials, Critical Temperature, Magnetic Properties, Energy Transmission, MRI

Introduction

Superconducting materials have long intrigued scientists due to their zero electrical resistance and expulsion of magnetic fields, known as the Meissner effect. Our study delves into advancements in the fabrication and properties of superconductors, revealing enhancements in critical temperatures and stability. These improvements are attributed to innovative material synthesis and processing techniques. The potential applications of these materials are vast, ranging from efficient energy transmission to advancements in medical imaging technology.

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