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VIBRANIUM: SCIENTIFIC INVESTIGATIONS AND COMPARATIVE ANALYSIS OF POSSIBLE APPLICATIONS AND REAL-LIFE RESEMBLANCE

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Abstract:

Vibranium is a fictional metal from the Marvel Universe which has sparked scientific interest because of its incredible hypothetical properties. This paper offers a scientific concept analysis of Vibranium by studying its assumed physical chemical mechanical and electronic properties and comparing them with extraordinary materials existing in reality. The metal is speculated to have an amazing strength-to-weight ratio, high thermal and electrical conductivity, outstanding resistance to corrosion and the capability to absorb and dissipate energy. Such features are indicative of possible uses in aerospace engineering, advanced electronics, biomedical implants, energy storage systems, high-temperature industrial components and defence. Besides proposing possible routes of synthesis, methods of theoretical modelling and techniques of characterization which might be applied to explore such materials if they existed. We also discussed the resemblances between Vibranium and present-day high-quality materials like tungsten, titanium alloys and carbon-fibres composites to add a scientific perspective. This idea of using fictional materials can lead to innovative thinking in materials science and can also serve as a source of inspiration for the development of multifunctional high, performance materials for future technological applications.

Keywords: Vibranium; fictional material; Marvel Universe; aerospace engineering; biomedical implants; energy storage.