

Energy Harvesting in Wearable Electronics: A Sustainable Approach

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Abstract. Wearable electronics have become increasingly popular, offering innovative solutions for health monitoring and personal convenience. This paper discusses the potential of energy harvesting technologies to power wearable devices sustainably. By exploring methods such as solar power, thermoelectric generators, and kinetic energy, the study aims to reduce dependency on traditional batteries. The paper highlights the challenges and future directions for integrating these technologies into wearable systems, emphasizing the importance of sustainable energy solutions.

Keywords: Wearable Electronics, Energy Harvesting, Sustainability, Solar Power, Thermoelectric Generators

Introduction

The rapid advancement of wearable electronics has led to a growing demand for sustainable energy solutions. Traditional battery-powered devices face limitations in terms of lifespan and environmental impact. This paper investigates various energy harvesting technologies that can be integrated into wearable electronics to provide a sustainable energy source. Focusing on solar energy, thermoelectric generators, and kinetic energy harvesting, the study evaluates the effectiveness and feasibility of these methods. By addressing the challenges associated with each approach, the research aims to promote the development of eco-friendly wearable devices that align with modern sustainability goals.

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References

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