Review of: "Enhancing Electric Vehicle Reliability and Integration with Renewable Energy: A Multi-Faceted Review"

Amjid Khan[1]

1 Oklahoma State University

Potential competing interests: No potential competing interests to declare.

An intricately crafted manuscript delves into the prevalent emphasis on the reliability of Electric Vehicle (EV) drive motors in existing research, often neglecting the pivotal dimension of the motor controller. This scholarly endeavor aims to bridge this noticeable research gap by comprehensively assessing the overall reliability of the entire electric van motor system, encompassing not only the drive motor but also the motor controller components. In addition to prognosticating failure rates for these components, the study illuminates their vulnerabilities and underscores the limitations evident in current research methodologies. These discernments, therefore, serve as a valuable repository of insights, poised to inform and shape future practices in the realms of design and maintenance.

Moreover, the escalating integration of Electric Vehicles (EVs) with renewable energy sources has become a focal point of considerable attention. However, apprehensions surrounding the reliability of these interconnected components have surfaced. In response to this concern, the article introduces a pioneering methodology labeled as "Innovative Incentive-Driven Fuzzy Fault Tree Analysis" (IIFFTA). Tailored for power systems amalgamating EVs and renewable energy sources, this innovative approach is expressly designed to grapple with the inherent challenges posed by vague and imprecise events, as well as data deficiencies. It represents a noteworthy departure from conventional fault tree analysis methods, showcasing its adaptability in addressing intricacies unique to power systems involving EVs and renewable energy sources.