Review of: "Toward the Realization of Nanogate Capacitors: In Search of Practical Advice"

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Potential competing interests: No potential competing interests to declare.

Review Report

The paper proposes an energy autarkeia system based on nanogate capacitors as a solution to the limitations of current electric double layer capacitors (EDLCs). The authors argue that if nanogate capacitors, inspired by the work of M. Okamura, are realized, they could offer an ideal and cost-effective solution for electric energy storage. The manuscript explores the concept of ECaSS(R) (Energy Capacitor System) and delves into the potential of nanogate capacitors, highlighting their key attributes and applications. Here are some suggestions that will be helpful for the improvement of this research work.

1. The paper is generally well-organized, but the abstract could be more concise. Consider condensing the information to provide a clearer overview. The introduction and the sections on ECaSS(R) and nanogate capacitors are informative and logically presented. However, providing a brief roadmap of the paper's structure at the beginning would enhance reader understanding.
2. The technical explanations are comprehensive, but there are instances where more clarity and simplification would aid understanding, especially for non-expert readers. Consider adding visuals or diagrams to illustrate key concepts, such as the structure of electric double layers.
3. The references seem relevant and appropriately cited. However, there are some instances where more recent references could enhance the paper's credibility. Ensure all references are consistently formatted.
4. The authors briefly mention their lab's engagement in nanogate capacitor research but could provide more insight into potential challenges and future directions. A discussion on the current state of nanogate capacitor research and recent developments in the field would strengthen the paper.
5. The conclusion is concise but lacks a summary of key findings. Recapitulating the main contributions and potential impacts of nanogate capacitors would reinforce the significance of the proposed research.