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.

Using a supercapacitor as the energy source for EVs is very promising due to the ultrafast charging (few minutes) and non-flammable features. However, the energy density of commercial supercapacitor products is too small, typically 5 kWh/kg, much smaller than that of batteries (150-200 kWh/kg). As a result, the energy system using supercapacitors is usually very big and heavy, which is only suitable for buses, etc. I wonder if the authors have considered the Li-ion capacitors, which combine the advantages of supercapacitors and batteries, showing high power density and high energy density (50-60 kWh/kg) simultaneously.

From my point of view, the nanogate capacitor shows no difference from the commercial AC-based supercapacitors.