

# Review of: "Achieving ultrahigh instantaneous power density of 10 MW/m<sup>2</sup> by leveraging the opposite-charge-enhanced transistor-like triboelectric nanogenerator (OCT-TENG)"

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**Potential competing interests:** The author(s) declared that no potential competing interests exist.

This paper reports a new type of OCT-TENG structure, which utilizes opposite-charge-enhancement effect and the transistor-like device structure design to achieve TENG with an instantaneous output power density of up to 12 MW/m<sup>2</sup> at a low-frequency operating conditions of about 1Hz. The OCT-TENG is much higher than the performance reported in the previous literature, and this is a great improvement. Utilizing the ultra-high output power of the device, it can supply power for commercial lamps and wirelessly powered LED car bulbs, making it possible for TENG to power more commercial appliances. However, there are some minor concerns listed below should also be addressed:

1. The description of the working principle process on the second page of the paper, "At stage 4, the slider moves towards the PC side before E3 touching EL;", the description of the slider moving direction in the stage 4 and the stage 2 is the same, it should be changed to "At stage 4, the slider moves towards the FEP side before E3 touching EL".
2. The device in this work shows a very high output performance. Have you calculated the conversion efficiency between motor output power and OCT-TENG output power?
3. It can be seen from the supporting information that in the actual test, a weight is added above the slider, which is equivalent to applying a vertical positive pressure to the slider. Does the pressure affect the output performance?