# Article information:

A droplet-driven micro-surfboard with dual gradients for programmable motion - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S1385894722023695>

# Article summary:

1. A novel droplet-driven micro-surfboard (DDMS) is developed using femtosecond laser, which can be driven in a green and controllable way.

2. The DDMS is composed of a superhydrophobic sheet with superhydrophilic wedgy grooves, which facilitates the directional motion of the DDMS.

3. This work provides new insights into pollution-free autonomous devices and shows the great potential of droplet-driven autonomous devices in the fields of micromechanics and intelligent systems.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

This article presents a novel droplet-driven micro-surfboard (DDMS) as an alternative to conventional self-propelled autonomous devices that require external energy or chemicals to move. The article is well written and provides detailed information on the design and function of the DDMS, as well as its potential applications in various fields such as energy, environment, biomedical engineering, and micromechanics. The article also includes graphical abstracts to help readers better understand the concept behind the device.

The article does not appear to have any major biases or one-sided reporting; it presents both sides equally by discussing both conventional self-propelled autonomous devices and the new droplet-driven micro-surfboard (DDMS). Furthermore, all claims made are supported by evidence from experiments conducted by researchers. There are no missing points of consideration or missing evidence for any claims made in this article.

The only potential issue with this article is that it does not discuss any possible risks associated with using this device, such as safety concerns or environmental impacts. However, since this device is still in its early stages of development, it may be too soon to consider these issues at this point in time.

In conclusion, this article appears to be reliable and trustworthy overall; it provides detailed information on the design and function of the DDMS without any major biases or one-sided reporting.

# Topics for further research:

* Safety concerns of droplet-driven micro-surfboard
* Environmental impacts of droplet-driven micro-surfboard
* Potential applications of droplet-driven micro-surfboard
* Comparison of droplet-driven micro-surfboard to conventional self-propelled autonomous devices
* Experimental evidence for droplet-driven micro-surfboard
* Future developments of droplet-driven micro-surfboard

# Report location:

<https://www.fullpicture.app/item/dac94df33fd75e216e4a255d3b9874c5>