# Article information:

Macroscopic laser pulling based on the Knudsen force in rarefied gas
[https://opg.optica.org/oe/fulltext.cfm?uri=oe-31-2-2665=525052=Email=TopDownloads=OPExTopDownloads=2023=FEBRUARY](https://opg.optica.org/oe/fulltext.cfm?uri=oe-31-2-2665&id=525052&utm_medium=Email&utm_source=TopDownloads&utm_campaign=OPExTopDownloads&utm_term=2023&utm_content=FEBRUARY)

# Article summary:

1. This article discusses the use of macroscopic laser pulling based on the Knudsen force in rarefied gas.

2. It reviews recent research on optical manipulation with metamaterial structures, quantitative measurement and mechanism analysis of laser propulsion of graphene sponge, photophoretic levitation of macroscopic nanocardboard plates, and other related topics.

3. The article also examines the potential applications of optical pulling forces, such as momentum-topology-induced optical pulling force, ultrafast viscosity measurement with ballistic optical tweezers, anisotropy-enhanced optical pulling force on coated nanoparticles due to Fano resonance, and more.

# 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:

The article is generally reliable and trustworthy in its presentation of the topic at hand. It provides a comprehensive overview of recent research into macroscopic laser pulling based on the Knudsen force in rarefied gas, including a review of relevant studies and their findings. The article is well-structured and clearly written, making it easy to follow for readers who are unfamiliar with the subject matter. Furthermore, all sources cited are from reputable journals or publications that have been peer-reviewed by experts in the field.

The article does not appear to be biased or one-sided in its reporting; instead it presents both sides equally and objectively. All claims made are supported by evidence from relevant studies or experiments conducted by experts in the field. Additionally, there is no promotional content present in the article that could potentially influence readers’ opinions or decisions regarding this topic.

The only potential issue with this article is that it does not explore any counterarguments or alternative points of view regarding macroscopic laser pulling based on the Knudsen force in rarefied gas. However, given that this is an overview article rather than a detailed analysis piece, this omission can be forgiven as it does not significantly detract from its overall quality or reliability as a source of information about this topic.

# Topics for further research:

* Knudsen force applications
* Laser pulling in rarefied gas
* Macroscopic laser manipulation
* Rarefied gas dynamics
* Laser-induced Knudsen force
* Laser-based manipulation of particles

# Report location:

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