# Article information:

Braiding Thin McKibben Muscles to Enhance Their Contracting Abilities | IEEE Journals & Magazine | IEEE Xplore
<https://ieeexplore.ieee.org/abstract/document/8398489>

# Article summary:

1. Pneumatic actuators are suitable for soft and wearable robots due to their flexibility and compliance.

2. McKibben muscles are ideal for musculoskeletal robots as they have similar characteristics to human muscles.

3. Existing McKibben muscles have a disadvantage of being too large in diameter and becoming hard under pressure.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article titled "Braiding Thin McKibben Muscles to Enhance Their Contracting Abilities" discusses the use of pneumatic actuators, specifically McKibben muscles, in soft and wearable robots. The article highlights the advantages of using these muscles due to their flexibility and compliance, which are similar to human muscles. However, the article also points out some disadvantages of existing McKibben muscles, such as their large outer diameters and becoming hard under pressurized states.

Overall, the article provides a detailed analysis of the potential benefits and drawbacks of using McKibben muscles in soft robotics. However, there are some potential biases and limitations in the article that should be considered.

One potential bias is that the article focuses primarily on the advantages of using McKibben muscles without providing much discussion on potential risks or limitations. For example, while the article mentions that existing McKibben muscles have large outer diameters and become hard under pressure, it does not discuss any potential safety concerns or drawbacks associated with these issues.

Additionally, the article may be somewhat one-sided in its reporting as it primarily focuses on the benefits of using pneumatic actuators in soft robotics without exploring alternative approaches or technologies. While this is understandable given the focus of the article, it would have been helpful to provide more context on other options available for soft robotics.

Another limitation of the article is that it does not provide much evidence for some of its claims. For example, while it states that McKibben muscles are suitable for applications in musculoskeletal robots because their compliance and contraction characteristics are similar to those of human muscles, it does not provide any data or research to support this claim.

Finally, while the article provides a detailed analysis of how braiding thin McKibben muscles can enhance their contracting abilities, it does not explore any counterarguments or potential limitations associated with this approach.

In conclusion, while "Braiding Thin McKibben Muscles to Enhance Their Contracting Abilities" provides a useful overview of the potential benefits and drawbacks of using pneumatic actuators in soft robotics, it is important to consider its potential biases and limitations. Further research and analysis are needed to fully understand the advantages and limitations of using McKibben muscles in soft robotics.

# Topics for further research:

* Alternative approaches to pneumatic actuators in soft robotics
* Safety concerns associated with McKibben muscles in soft robotics
* Comparison of different types of actuators in soft robotics
* Research on the compliance and contraction characteristics of human muscles
* Limitations of using braided McKibben muscles in soft robotics
* Applications of soft robotics beyond musculoskeletal robots

# Report location:

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