# Article information:

A Rotary Actuator Using Shape Memory Alloy (SMA) Wires | IEEE Journals & Magazine | IEEE Xplore  
<https://ieeexplore.ieee.org/document/6678081>

# Article summary:

1. This paper presents the design, operating principle, parametric analysis, experimental driving characterization, and working performance verification of a rotary actuator using shape memory alloy (SMA) wires.

2. The proposed actuator is realized with a rotational driving mechanism devised on the basis of the operating principle of wobble stepping motors.

3. A simplified geometric model-based parametric analysis is carried out to assess the parametric effect on working performances such as the cogging torque and maximum output torque of the actuator.

# 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 provides an overview of a rotary actuator using shape memory alloy (SMA) wires, including its conceptual design, operating principle, simplified geometric model-based parametric analysis, experimental driving characterization, and working performance verification. The article is well written and provides detailed information about the design and operation of the proposed actuator.

The article does not appear to be biased or one-sided in its reporting; it presents both sides equally by providing an overview of existing SMA rotary actuators as well as discussing their advantages and drawbacks. It also provides a thorough explanation of the proposed actuator's design concept and operating principle.

The article does not appear to have any unsupported claims or missing points of consideration; all claims are supported by evidence from previous research studies or experiments conducted with a functional prototype. Additionally, all key parameters are discussed in detail in order to assess their effects on working performances such as cogging torque and maximum output torque.

The article does not contain any promotional content or partiality; it simply provides an objective overview of the proposed SMA rotary actuator without attempting to promote it over other existing solutions. Furthermore, possible risks associated with using SMA materials are noted throughout the article.

In conclusion, this article appears to be trustworthy and reliable in its reporting; it provides an objective overview of a rotary actuator using shape memory alloy (SMA) wires without any bias or unsupported claims.

# Topics for further research:

* Shape Memory Alloy (SMA) Rotary Actuator
* Geometric Model-Based Parametric Analysis
* Cogging Torque Characterization
* Maximum Output Torque Evaluation
* SMA Material Risks
* SMA Rotary Actuator Applications

# Report location:

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