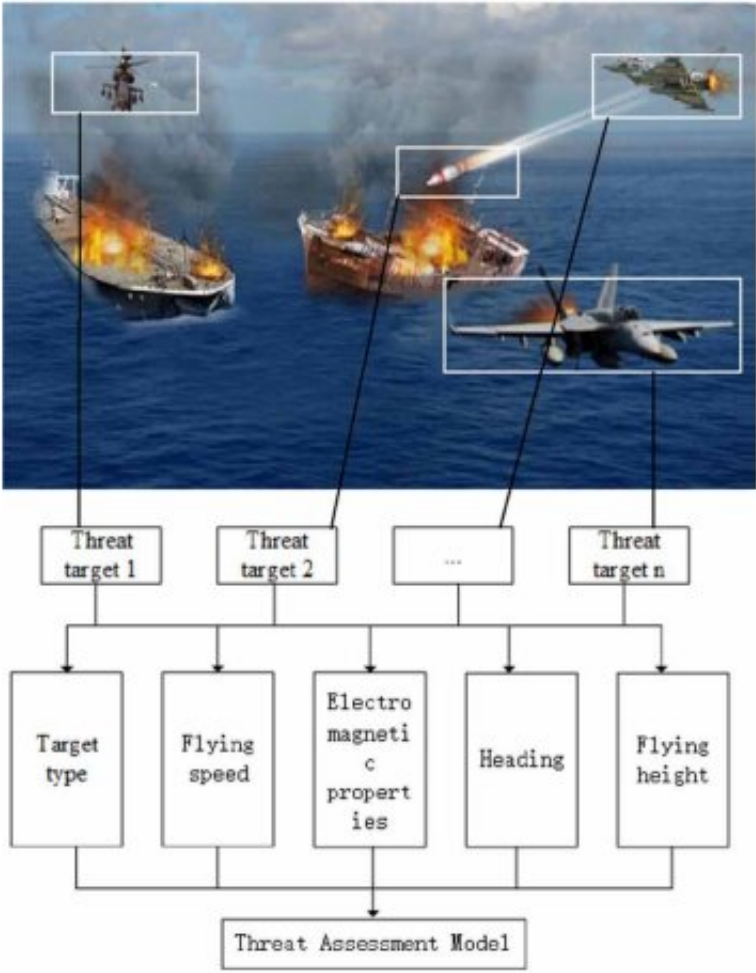


# A new method to evaluate the threat of air attacks in warship defense operations

January 12 2023



Multitarget Threat Assessment Model Structure. Credit: Authors of the study

In a recent research study, scientists have proposed a new method to evaluate the threat of air attacks on multiple targets in the field of warship defense operations. The proposed method, which is based on an improved version of the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) and gray relational analysis, takes into account five key attributes of target type, anti-jamming ability, heading angle, altitude, and speed.

The new method is designed to provide a more accurate and efficient way to evaluate the threat of air attacks on warships. The improved TOPSIS gray correlation method is used to calculate the weighted Mahalanobis distance and overall gray correlation between the attribute being evaluated and the ideal positive and negative states. The target [threat](#) level is determined by combining the results of these two methods.

The research team behind this new method believes that it will lead to more effective defense strategies and better protection for warships in the face of air attacks. They have provided an example to demonstrate the effectiveness of the evaluation model. The study's findings could have significant implications for the [defense](#) industry and could improve the safety of naval operations.

The article was published in *International Journal of Digital Crime and Forensics (IJDCF)*.

**More information:** Dongmei Zang et al, Research and Application of Warship Multiattribute Threat Assessment Based on Improved TOPSIS Gray Association Analysis, *International Journal of Digital Crime and Forensics* (2022). [DOI: 10.4018/IJDCF.315288](https://doi.org/10.4018/IJDCF.315288)

Provided by CUECR

Citation: A new method to evaluate the threat of air attacks in warship defense operations (2023, January 12) retrieved 17 April 2024 from <https://techxplore.com/news/2023-01-method-threat-air-warship-defense.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.