# Article information:

Ultra-thin narrow-band, complementary narrow-band, and dual-band metamaterial absorbers for applications in the THz regime: Journal of Applied Physics: Vol 121, No 6  
<https://aip.scitation.org/doi/10.1063/1.4975687>

# Article summary:

1. This paper investigates ultra-thin narrow-band, complementary narrow-band, and dual-band metamaterial absorbers (MMAs) in the THz regime.

2. The MMA structures have a wide angular response and polarization-insensitive behavior due to the introduction of a conducting ground plane and four-fold rotational symmetry of the resonant elements.

3. A retrieval procedure was used to extract the effective electromagnetic parameters of the proposed MMAs and compare simulated and analytical results through interference theory.

# 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 is generally reliable in its presentation of research findings related to ultra-thin narrow-band, complementary narrow-band, and dual-band metamaterial absorbers (MMAs). The authors provide detailed descriptions of their methodology, including the introduction of a capacitance which considers the z component of the electric field, as well as a retrieval procedure to extract effective electromagnetic parameters for comparison with simulated results. The authors also note potential limitations in their approach, such as the limit of applicability of the transmission line model.

The article does not appear to be biased or one-sided in its reporting; it presents both sides equally by providing an overview of both theoretical models and experimental results. It also does not appear to contain any promotional content or partiality towards any particular viewpoint or conclusion. Furthermore, possible risks are noted throughout the article, such as those associated with using transmission line models for analysis.

In terms of missing points or evidence for claims made, there is no mention of any counterarguments that may exist against the conclusions drawn from this research; however, this is likely due to space constraints rather than intentional omission on behalf of the authors. Additionally, there is no discussion about how these findings could be applied in practical applications; however, this is outside the scope of this particular paper so it can be forgiven.

All in all, this article appears to be trustworthy and reliable in its presentation of research findings related to MMAs in the THz regime.

# Topics for further research:

* Practical applications of metamaterial absorbers
* Counterarguments to metamaterial absorbers
* Limitations of transmission line models
* THz regime electromagnetic parameters
* Experimental results of ultra-thin narrow-band MMAs
* Dual-band metamaterial absorbers

# Report location:

<https://www.fullpicture.app/item/dd0b519a4afff7a17f06f254b7419900>