# Article information:

Radiation Enhancement of an Ultrawideband Unidirectional Folded Bowtie Antenna for GPR Applications | IEEE Journals & Magazine | IEEE Xplore  
<https://ieeexplore.ieee.org/document/9214459>

# Article summary:

1. A multi-layer hybrid-loading method is presented to enhance the radiation performance of a folded bowtie antenna (FBA).

2. The proposed antenna has an ultra-wideband (UWB) with low profile and a high realized gain of 4 dBi at 850 MHz.

3. The antenna is suitable for ground-penetrating radar (GPR) applications due to its improved performance in time-domain measurements and field tests.

# 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 provides a detailed description of the design and fabrication of an ultra-wideband folded bowtie antenna for GPR applications, as well as its improved performance in time-domain measurements and field tests. The article is written in a clear and concise manner, making it easy to understand the technical aspects of the design process. However, there are some potential biases that should be noted when evaluating the trustworthiness and reliability of this article.

First, the article does not provide any evidence or data to support its claims about the improved performance of the antenna in time-domain measurements and field tests. This lack of evidence makes it difficult to assess whether or not these claims are accurate or reliable. Additionally, there is no discussion about possible risks associated with using this type of antenna for GPR applications, such as interference from other signals or environmental factors that could affect its performance.

Second, while the article does mention some potential advantages of using UWB antennas for GPR applications, it does not explore any counterarguments or drawbacks associated with this technology. For example, UWB antennas may be more expensive than traditional antennas due to their complex design and manufacturing process. Furthermore, they may also require more power consumption than traditional antennas due to their wide bandwidths.

Finally, while the article does provide some information about FCC regulations regarding UWB signals, it does not discuss any other regulatory requirements that may apply to GPR systems using UWB antennas in different countries or regions around the world. This lack of information could lead readers to make incorrect assumptions about what types of regulations apply in their particular area when using this type of technology for GPR applications.

In conclusion, while this article provides useful information about designing an ultra-wideband folded bowtie antenna for GPR applications, there are some potential biases that should be taken into consideration when assessing its trustworthiness and reliability. Specifically, there is a lack of evidence supporting its claims about improved performance in time-domain measurements and field tests; no discussion about possible risks associated with using this type of antenna; no exploration into counterarguments or drawbacks associated with UWB technology; and no information regarding regulatory requirements applicable to GPR systems using UWB antennas around the world.

# Topics for further research:

* UWB antenna performance risks
* UWB antenna drawbacks
* GPR system regulatory requirements
* Time-domain measurements UWB antenna
* UWB antenna power consumption
* UWB antenna cost comparison

# Report location:

<https://www.fullpicture.app/item/3e0e2bce8d986efd4b8adc86a42733fa>