# Article information:

Waveform design and signal processing method for integrated underwater detection and communication system - Niu - IET Radar, Sonar &amp; Navigation - Wiley Online Library  
<https://ietresearch.onlinelibrary.wiley.com/doi/10.1049/rsn2.12365>

# Article summary:

1. Integrated System of integrated underwater detection and communication (ISUDC) research originated from airborne radar as early as the 1960s.

2. Different operating regimes, such as time-sharing, frequency-sharing, and split-beam are used for integrated radar communication systems.

3. Fully shared regime has a high degree of sharing and high spectrum and energy utilisation by transmitting a shared waveform.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Waveform design and signal processing method for integrated underwater detection and communication system” by Niu is an informative piece that provides an overview of the current research on ISUDC systems. The article is well written and provides a comprehensive overview of the different operating regimes used for integrated radar communication systems, such as time-sharing, frequency-sharing, and split-beam. It also discusses the fully shared regime which has a high degree of sharing and high spectrum and energy utilisation by transmitting a shared waveform.

The article is reliable in terms of its content as it provides evidence to support its claims with references to relevant studies conducted in the past. The author also provides detailed descriptions of each operating regime discussed in the article which makes it easier for readers to understand the concepts discussed in the article. Furthermore, the author does not present any biased or one-sided views on any topic discussed in the article which makes it trustworthy in terms of its content.

However, there are some points that could be improved upon in this article such as providing more details on how each operating regime works or exploring counterarguments to some of the claims made in the article. Additionally, there is no mention of possible risks associated with using these operating regimes which could be explored further in future articles on this topic.

# Topics for further research:

* Underwater communication system design
* Radar communication system performance
* Time-sharing operating regime
* Frequency-sharing operating regime
* Split-beam operating regime
* Fully shared operating regime

# Report location:

<https://www.fullpicture.app/item/b299253de030c94a62671fa381270032>