

Peer Review

Review of: "Quantum Meets SAR: A Novel Range-Doppler Algorithm for Next-Gen Earth Observation"

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Quantum Meets SAR: A Novel Range Doppler Algorithm for Next-Gen Earth Observation

General description:

A SAR implementation of a Quantum Range Doppler Algorithm (QRDA), relying on the Quantum Fourier Transform (QFT), is proposed in the present work. A quantum version of the Range Cell Migration Correction (RCMC) in the Fourier domain is also considered. The functionality of the proposed approach is illustrated through simulations of a 64x64 Sentinel-1 SAR subset.

Remarks:

The author suggests an original approach in SAR data processing that speeds up computations of the main signal processing steps.

Questions: What kind of language for quantum computing is used to obtain the results presented in the work?

What speed of computing is achieved compared with classical binary computing?

Using quantum computing to calculate larger data.

It is recommended to continue computing with image reconstruction algorithms.

In the introduction part of the article, recent publications about quantum computing and its application in radar systems should be analyzed and compared with the suggested quantum-based algorithms.

Attachments: available at <https://doi.org/10.32388/D6QU9K>

Declarations

Potential competing interests: No potential competing interests to declare.