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# Quantitative Method for Object Comparison on Synthetic Aperture Radar Satellite Images for Ocean Applications

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In this study we present a method for comparing objects, identified on images acquired by the synthetic aperture radar (SAR). The method gives a quantitative value for the similarity of different objects, detected on the sea surface on SAR images. Aim is to track their changes and be able to identify the most similar pairs. As a case study we detect four rectangle-like objects north of the Bulgarian city Varna, close to the shoreline. The structures are located on the sea bottom, but are very close to the sea surface, so they become visible in favorable conditions. The aim is to identify if they change their shape over time and if they are visible differently on images from ascending and descending orbit of the satellite Sentinel-1. This is done by calculating the image moments. We compare the similarity of the objects by calculating the 7 Hu moments or invariants and comparing them.

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## Promotional text

Method for quantitative comparison of objects, detected on the sea surface on SAR satellite images.

## Oral preference format

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