

## News and Views

### The first quantitative remote sensing of ocean internal waves by Chinese GF-3 SAR satellite

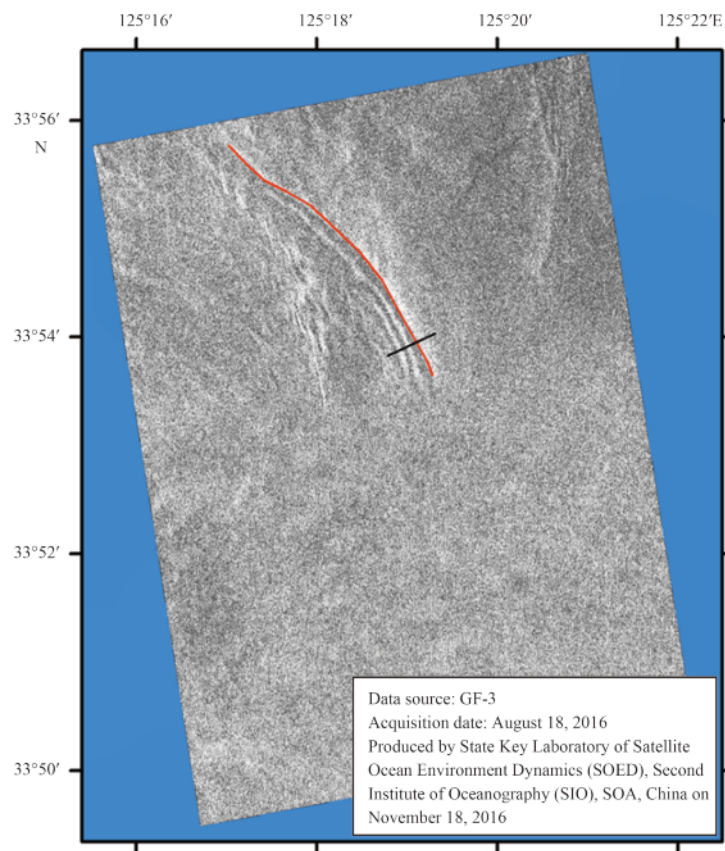
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Quantitative analysis and retrieval is given by the State Key Laboratory of Satellite Ocean Environment Dynamics (SOED), Second Institute of Oceanography (SIO), State Oceanic Administration (SOA), China, from the first batch of GF-3 synthetic aperture radar (SAR) data with ocean internal wave features in the Yellow Sea. It shows that the internal wave group appears in bright-and-dark bands and consists of three nonlinear wave trains (see the black line in Fig. 1). These nonlinear internal waves propagate to the northeast (see the arrow) with an average wavelength of about 250 m. The influence range of the internal wave group is more than 5 km (shown in red line). The maximum amplitude is about 5 m (located at the intersection of the red and black line). The water depth of this area is about 100 m and the average thermocline depth is 32 m in August. GF-3 is China's first C band multi-polarization high resolution microwave remote sensing satellite, launched on August 10, 2016 in the Taiyuan Satellite Launch Center. This SAR image is acquired on August 18, 2016 and officially announced by the State Administration of Science, Technology and Industry for National Defense, China.



**Fig. 1.** GF-3 SAR imagery with ocean internal wave features in the Yellow Sea.

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