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Location of multi-infrasonic pulse sources based on acoustic momentum of propagation

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To solve the ambiguation in corresponding signals from same sources recorded in different arrays, a multi-infrasonic sources location method is proposed. This method is based on the conservation of acoustic momentum in audibility zone during long-range infrasonic propagation in the atmosphere. In a rocket launch observation experiment, progressive multi-channel correlation method is utilized to calculate the azimuth of each signal in both arrays. Meanwhile, the conservation of acoustic momentum of each signal is also used to match the pulse sources received by both arrays, which facilitates to obtain true locations of infra-sound sources. The propagation total reflection of a pulse signal in continuously changing medium and the acoustic momentum are analyzed. The experimental results demonstrate the effectiveness of the proposed method.

Promotional text

This method solves the ambiguation in corresponding impulse signals from same sources recorded in different arrays.

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