

new method for regional infrasound events auto-association and scanner

This paper proposes an automatic correlation and scanning method for regional infrasound events. The correlation rules of infrasound networks in different regions and the effective monitoring areas of specific infrasound networks are determined. The multi-features including signal amplitude, frequency, correlation coefficient, travel time and signal azimuth interval of different infrasound stations in the designated area are established. For all automatically detection signals, firstly match the signal characteristics to screen the infrasound signals from the selected area. Then the target area is grid processed, by match the travel time and azimuth of each grid point, signal are evaluated to screen out the grid point with the highest matching degree together with the associated signal, then station association is realized. The test is conducted by using the historical infrasound events of the International Data Center, and the method can efficiently associate the infrasound stations within $10^{\circ} \times 10^{\circ}$ area and rapidly scanning out the events. When the number of reference events in the target area is more than 5, an effective infrasound signal feature model in this region can be established, and automatic association and rough location of infrasonic event under small sample conditions can be realized.

E-mail

tang.wei@ndc.org.cn

Primary author: Mr WEI, Tang (CTBT Beijing National Data Center)

Co-author: Mr WANG, Xuliang (CTBT Beijing National Data Center)

Session Classification: Poster

Track Classification: Poster session