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Source location using the Neighbourhood Algorithm

The Neighbourhood Algorithm is a grid search method that optimizes a user-supplied objective function over a computational domain using Voronoi cell tessellation. The algorithm is a method for solving geophysical inverse problems with the additional benefit of not requiring the estimation of travel-time derivative information (Sambridge, 1999)

In this application a misfit function for infrasound detections, defined in terms of observed and predicted values of travel time and backazimuth, is minimised using the neighbourhood algorithm with a hypocentral source location hypothesised.

The method is applied to several noteworthy infrasound events

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