## └─ I HELMHOLTZ H J IMAGING

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## Towards distributed imaging for autonomous seismic surveys in multi-agent networks

Distributed imaging is of high relevance for autonomous seismic surveys conducted by a multi-agent network. Such systems play an important role for future space missions to image near-surface anomalies such as lava tubes. The goal of distributed imaging is to obtain an estimate of the subsurface image at each agent locally via cooperation within the network. The image is resolved with respect to a physical parameter of the subsurface such as seismic wave speed or material density. We proposed a distributed version of the full waveform inversion (FWI) that relies on the adapt-then-combine technique. FWI is a geophyiscal imaging technique that obtains high resolution images by exploiting the wave equation. In the proposed method, gradients based on the local error residual and local subsurface images are exchanged among neighboring agents. The proposed method shows that images close the global subsurface image can be obtained at each agent in the network via such cooperation.

## I want to give an oral presentation.

no

## I want to present a poster.

yes

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