FIGHTING AMBIGUITY OF INVERSE PROBLEMS IN SEISMIC IMAGING

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Resumo/Abstract:
To construct an image of the earth's interior, seismic data need to be inverted for a model of the subsurface wave-propagation velocity. Two important inversion methods are slope tomography and full-waveform inversion. The unavoidable data incompleteness requires additional measures to assure uniqueness and stability to inversion. In slope tomography, a-priori information about the geometric properties of the reflection-seismic problem can help to estimate more realistic velocity models. For full-waveform inversion, a decomposition of the sensitivity kernel can help to understand the importance of different wavefield contributions, which may allow to exclude unreliable terms.