Fast trace interpolation and statics application by least squares inversion

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Summary

A new prescription for rapid application of wave-equation statics by last-squares to seismic data is provided. As part of this process, trace regularization by interpolation occurs naturally. Real and synthetic examples are used to demonstrate the interpolation/statics aspects of the exact method and its more useful approximation. It is expected that the approximation presented here will have significant application in conjugate gradient inversions where improved estimates of the preconditioning operator are needed to speed convergence.