relatively noisy results since it contains only 45 shots. The hybrid finite-difference (Sun et al., 2001) migrated results at inlines 242 and 342, compared with results from the “maximum energy” Kirchhoff migration, are shown in Figures 6 and 7. The finite-difference migrated images show much better imaged salt bottoms. The subsalt flat event images are also significantly improved. Moreover, the finite-difference images do not show the typical “ghost smiles” routinely observed in Kirchhoff-migrated images.

Conclusions

Migrations based on one-way wavefield extrapolation offer the potential of greater structural imaging quality than single-arrival Kirchhoff migration, but the standard formulation of such migrations, e.g. finite-difference migration, produce incorrect migrated amplitudes. By comparing these amplitudes with those produced by true-amplitude Kirchhoff migration, we have, in effect, calibrated these migration methods, correcting their amplitude and phase behavior.

References

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