Can a 2-D MT frequency response always be interpreted as a 1-D response?

Repaginated from article in Geophys. J. Internat., **181**, pp 269-74, 2010.

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SUMMARY
Weidelt and Kaikkonen showed that in the transverse magnetic (TM) mode of magnetotellurics it is not always possible to match exactly the 2-dimensional response at a single site with a 1-dimensional model, although a good approximation usually seems possible. We give a new elementary example of this failure. We show for the first time that the transverse electric (TE) mode responses can also be impossible to match with a 1-dimensional response, and that the deviations can be very large.