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Seismic Waves, Crustal Deformation, and the 1946 Nankai Earthquake

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We present an analysis of seismic waveform data and re-interpretation of the tsunamigenic crustal deformation associated with the 1946 Nankaido earthquake. The seismic rupture area was equal in size to the 1-day aftershock distribution, which is much smaller than the area over which crustal deformation occurs. Slip in the western part of this larger area can be interpreted in terms of slip on a splay fault, rather than on the megathrust. These suggest that the 1946 Nankaido earthquake was not a simple megathrust event, but may have been a compound event: seismic rupture proceeded along the megathrust westward from the epicenter just south of the Kii Peninsula to just east of Cape Muroto. This was followed by slow slip along a splay fault west of Cape Mutoro.

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