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Resolution Test

- ☐ Checkerboard
- ☐ Hit Quality
- ☐ 200 km Wide Structure to 330 km
- ☐ 200 km Wide Structure to 565 km
- ☐ 100 km Wide Structure to 330 km
- ☐ 100 km Wide Structure to 565 km

Depth

- ☐ 60 km
- ☐ 165 km
- ☐ 285 km
- ☐ 420 km
- ☐ 90 km
- ☐ 205 km
- ☐ 330 km
- ☐ 465 km
- ☐ 125 km
- ☐ 245 km
- ☐ 375 km

Figure 5. [Interactive](#). Map views of a checkerboard test, resolution of synthetic input structures, and “hit quality.” Radio buttons allow you to interactively select the resolution test type and the depth slice. The standard checkerboard test is of cubes 200 km per side and +10% or –10% the reference S-wave speed at each depth of AK135. The synthetic input structures (+10% V_s of the reference model, AK135) simulate vertical slabs of high-speed material with widths of either 200 km or 100 km that extend from 60 km to 330 km (slab to 330 km) and from 60 km to 565 km (slab to 565 km). Synthetic travel times were calculated by tracing rays through the synthetic structures using the same station and event distribution as observed. In the case of the synthetic structure tests simulating slabs, random noise of root mean square = 1.35 s was added to the synthetic travel times. The synthetic travel times are then inverted for speed perturbation using the same method as with the measured arrival times. The “hit quality” parameter demonstrates ray coverage, with cooler colors representing better resolved regions. To interact with Figure 5 for the PDF version of this paper, open the PDF in Adobe Acrobat or Adobe Reader. To interact with the figure while reading the full-text version of this paper, click <http://doi.org/10.1130/GES01591.i1> to download a PDF of Figure 5.