

## **Pg Travel Time Tomography in Eastern Asia**

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We are performing Pg tomography of central and eastern Asia, including eastern Russia, Mongolia, China, Japan, India, and Indochina. Our goal is to improve travel time calibration of Pg to reduce seismic event mislocations when secondary phases are used. We use a first-difference smoothed least squares inversion similar to Pn tomography. The inversion is performed with an LSQR conjugate gradient method, and we solve for slowness perturbations, site terms, and event terms. We assume a great circle path between event and station and at this point do not take into account depth, though depths are limited to shallower than 35km. We invert Pg travel times on a one-degree grid and obtain variance reduction in RMS residuals of about forty percent (from 1.6 sec to .98 sec) for our preliminary test case. We observe very slow crustal velocity at Sakhalin and the foldbelt to its west and in the eastern half of Mongolia. Very high velocities are found in the forearc sections of Pacific subduction zones. The Baikal rift shows moderate velocities with higher Pg velocities in the Siberian Platform and Aldan Shield. These results agree well with previous Pg work by Mackey and with Pn velocity and Lg attenuation results by Rowe et al.

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