

Shear velocity model for the Kyrgyz Tien Shan
from joint inversion of receiver function and
surface wave data: Supplementary material

Amy Gilligan, Steven W. Roecker and Keith F. Priestley

June 9, 2014

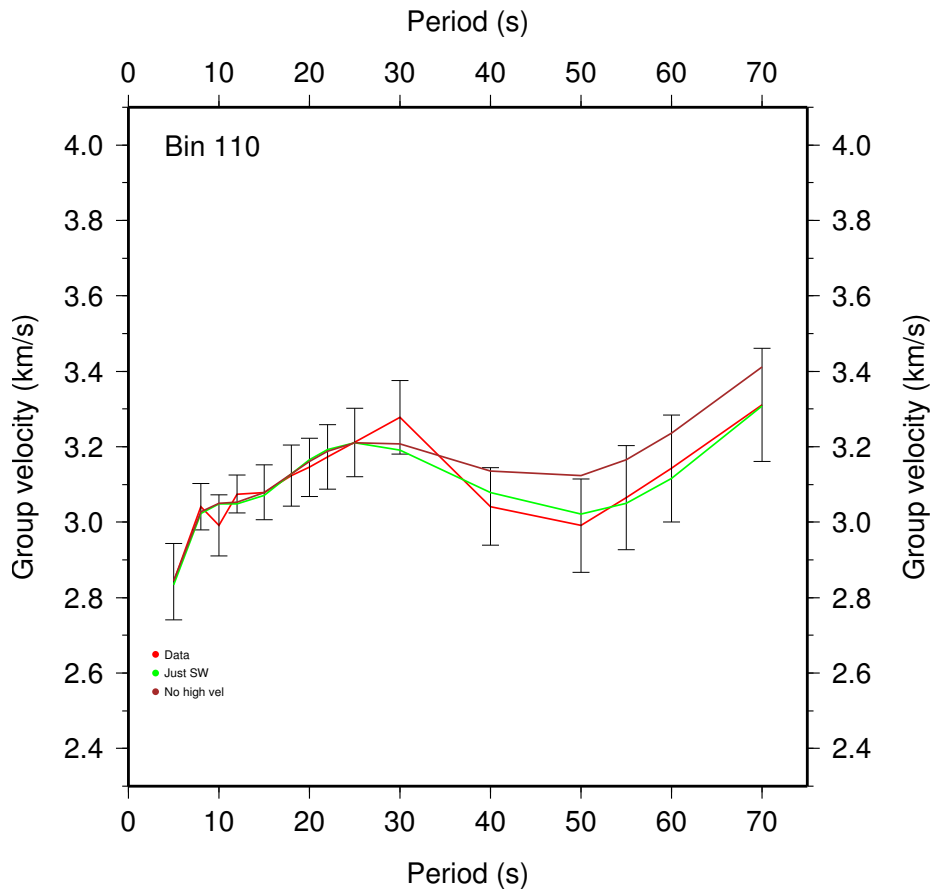


Figure S1: The brown line shows the resultant group velocities for bin 110 for a model with the low velocity model between 37km and 80km removed. The red line is the group velocity data, and the green line is the resultant group velocities from the model produced by the inversion of the surface wave dispersion data in this bin.

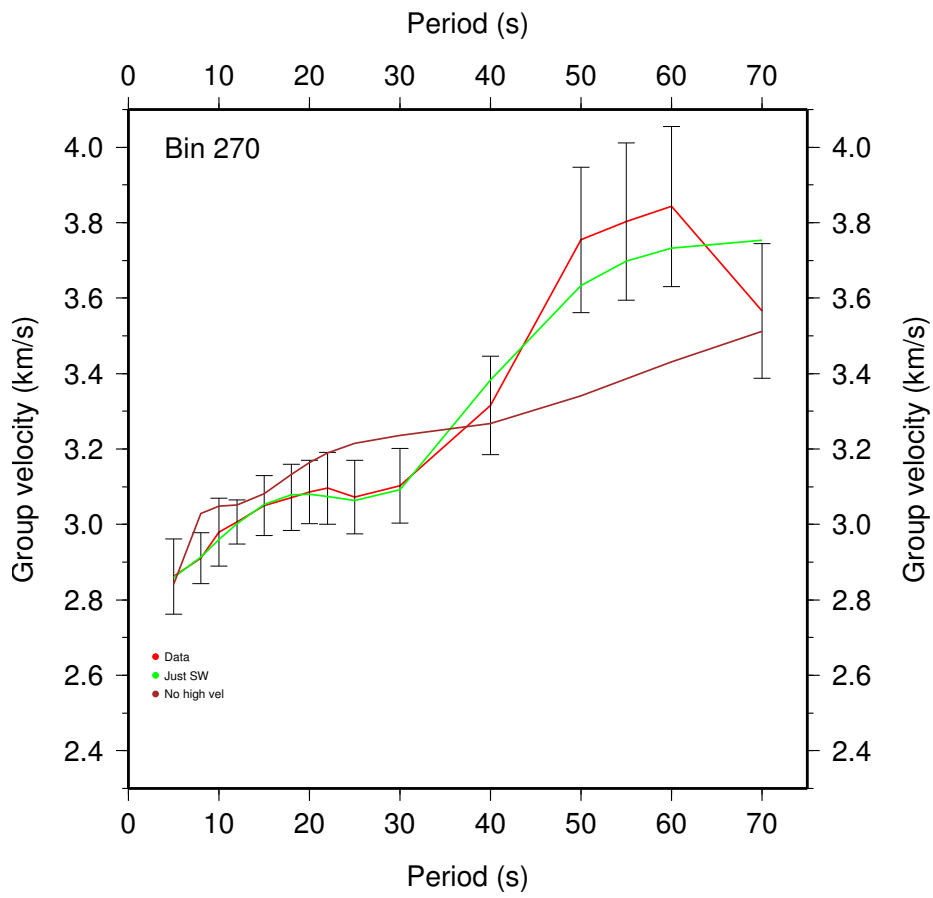


Figure S2: As Figure S1 but for bin 270, with the high velocity zone between 57km and 120km set to the same velocity as at 57km.

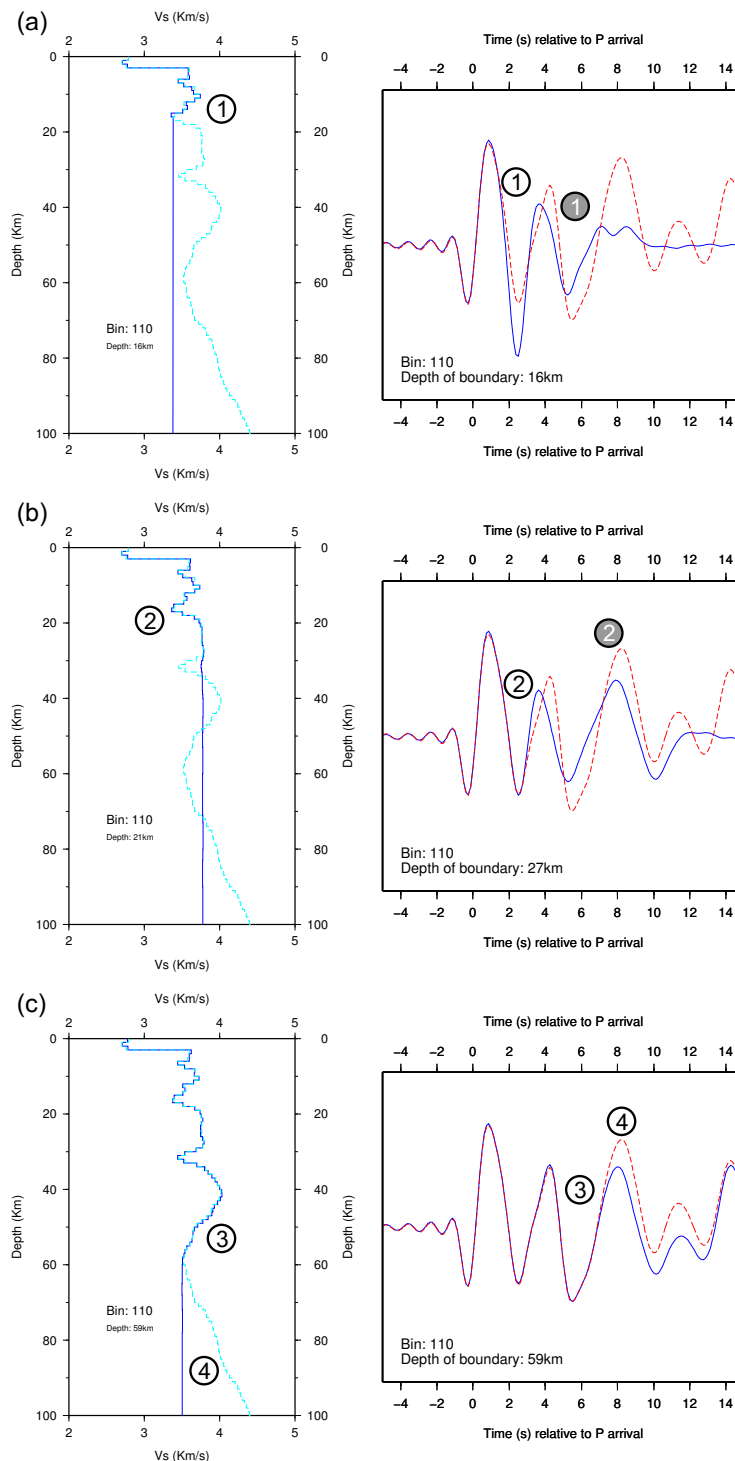


Figure S3: Velocity models (left) and P receiver functions (right) for bin 110. The receiver function shown in blue in (a) is that produced by the velocity model shown in blue in (a), that is the same as the model (shown in cyan dashed line) produced from the joint inversion of surface wave, PRF and SRF data with a surface wave starting model up to 16km depth and uniform below that. The receiver function shown in the red dashed line is that produced by the model resulting from the joint inversion of surface wave, PRF and SRF data. The white circled numbers label, in the velocity model, is the velocity contrast of interest, and in the receiver function, the resultant P-to-S conversion from this velocity contrast. The grey circled numbers label the multiples from the velocity contrast of interest. (b) is as (a) but with the model to 21km. In (c) the model is to 59km.

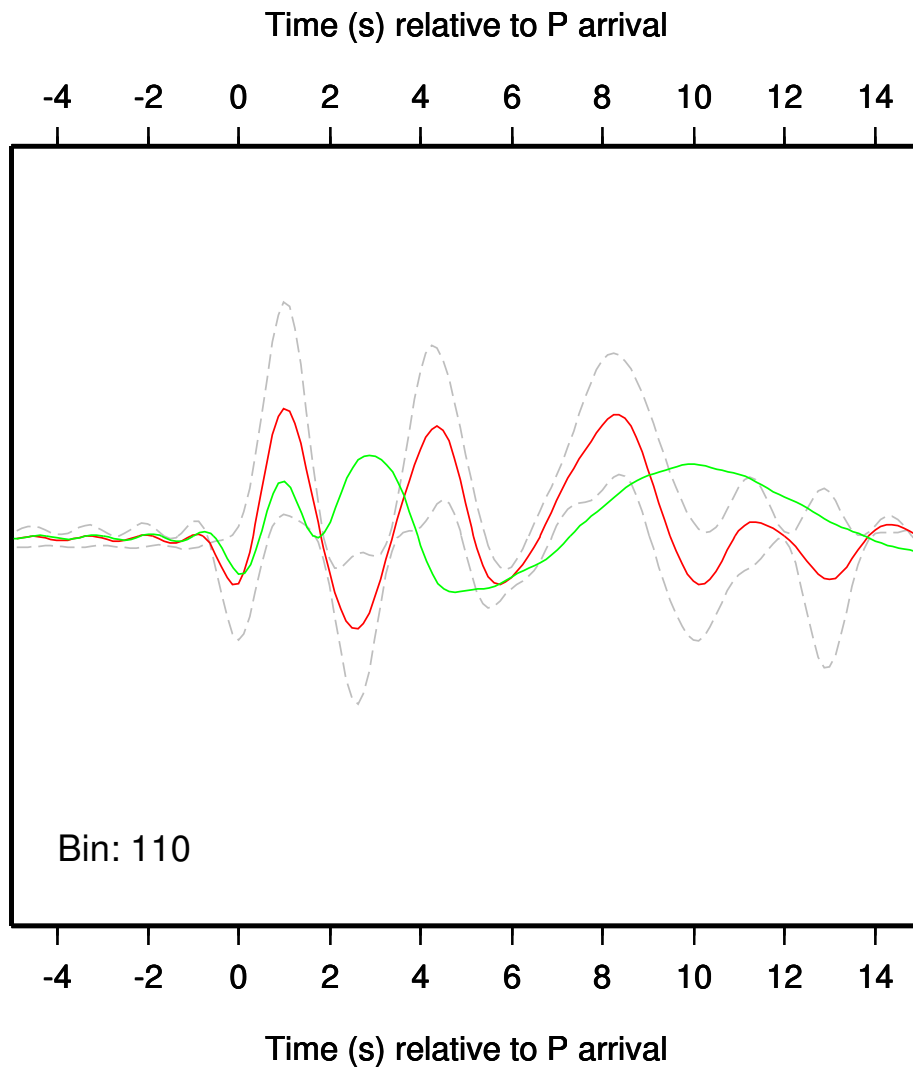


Figure S4: Data and synthetic P receiver functions for bin 110. The red line is the receiver function used in the inversion. The green line is the synthetic receiver function for the model given by the inversion of the surface wave data on its own. Grey dashed lines are one standard deviation.

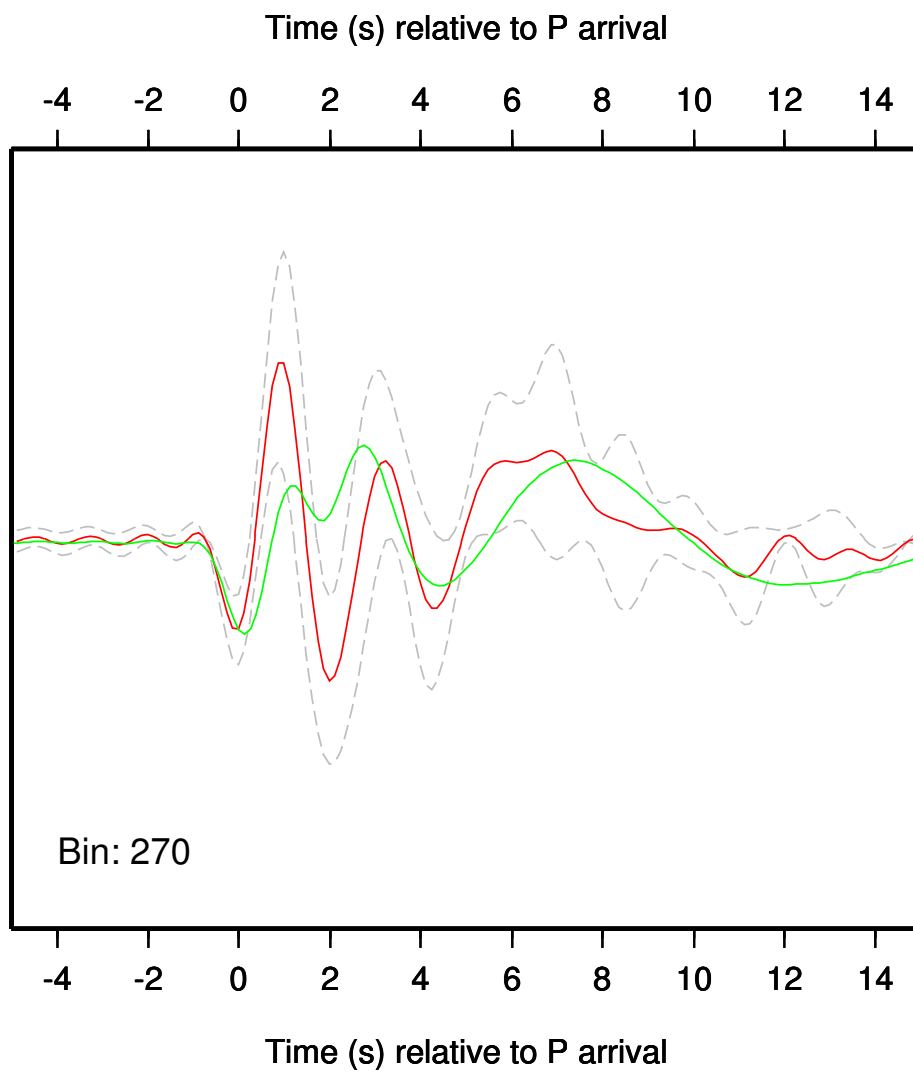


Figure S5: As Figure S4 but for bin 270.