

2004 Fall Meeting
Search Results

Cite abstracts as **Author(s) (2004), Title, *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract xxxxx-xx**

Your query was:
zurek

HR: 0800h

AN: **T31A-1277**

[Lithospheric structure of the Eastern Syntaxis of Tibet using receiver functions](#)

***Zurek, B D**

EMzurek@lehigh.edu

AFLehigh University, 31 Williams Dr, Bethlehem, PA 18105

Meltzer, A

EMameltzer@lehigh.edu

AFLehigh University, 31 Williams Dr, Bethlehem, PA 18105

Sol, S

EMstsd@lehigh.edu

AFLehigh University, 31 Williams Dr, Bethlehem, PA 18105

Zhang, X

EMcdzxuanyang@cgs.gov.cn

AFChengdu Institute of Geology and Mineral Resources, #82 the 3rd Northern Segment of the First Ring Road, Chengdu, 610082 China

Zhang, J

EMcdzxuanyang@cgs.gov.cn

AFChengdu Institute of Geology and Mineral Resources, #82 the 3rd Northern Segment of the First Ring Road, Chengdu, 610082 China

AI In July of 2003, as part of a larger Continental Dynamics study, a temporary PASSCAL seismic network (Eastern Syntaxis Seismic Experiment) was installed throughout southeastern Tibet, consisting of 50 broad-band and 20 short-period seismometers. The aim of this multi-disciplinary study is to better understand the interaction between surface processes and tectonics. This dense network is used to investigate the ways in which changes in lithospheric rheology control coupling between crustal deformation and mantle flow. The seismic array extends eastward from Lhasa in central Tibet and straddles the eastern syntaxis, centered at the Gyala Peri - Namche Barwa Massif. The massif exposes mid-lower crustal rocks exhumed from depth, providing an opportunity to evaluate models of crustal flow. Initial receiver function results show a Moho depth that varies from 60-80 km depth. West of the Namche Barwa massif, Moho depth ranges from 70-80 km and upper crustal layering is observed. In the vicinity of the Namche Barwa massif the Moho shallows to approximately 60 km. Layering in the lower crust is observed and preliminary analysis of the tangential component of the receiver functions for anisotropy suggests at least one anisotropic layer in the lower crust. Additional analysis will constrain the orientation and magnitude of this anisotropy. East of the

Namche Barwa Massif the Moho deepens to 70+ km and layering is present throughout the crust with possible anisotropic layers in the upper crust. The thinning of the crust in the vicinity of the Namche Barwa massif is suggestive of coupling between the upper and lower crust in relation to surface processes. The exact mechanism by which this coupling occurs and how this is related to mantle flow has yet to be determined and will be further investigated.

DE: 8120 Dynamics of lithosphere and mantle--general

DE: 7218 Lithosphere and upper mantle

SC: Tectonophysics [T]

MN: 2004 AGU Fall Meeting

New Search

