Recommended session: *New Horizons in Scope: Geophysics in Extreme and Unconventional Environments*

Geothermal Heat Flux Estimation Across Antarctica and Its Implication for Ice-bedrock Interface Condition

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Quantifying the Antarctica ice loss is important for predicting sea level rise and climate change. Geothermal heat flux is an important boundary condition for modeling the thermomechanical conditions at the ice-bedrock interface. However, observations of heat flux remain rare in Antarctica and inferences are inconsistent. We update our earlier estimation (Shapiro and Ritzwoller, 2004) via assimilating new heat flux observations from regions with higher-resolution structures seismically similar to Antarctica. We evaluate the resolution and uncertainties by comparing predictions with observations at North America and Western Europe.