

# Spatial Variations of Attenuation in the Mantle beneath North America from P Wave Spectral Ratio

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## **Abstract**

We explore spatial variations of seismic wave attenuation in the mantle beneath North America using teleseism ( $30^\circ - 90^\circ$ ) of deep ( $> 200$  km) earthquakes. Attenuation is quantified using the  $t^*$  operator and measured from P wave spectral ratio to explore whether spectral ratio of P wave signals can be used to map the variable anelastic properties of Earth's asthenosphere. Preliminary results indicate that regional variations in  $t^*$  correlate with the tectonic terrains of North America. Low values of  $t^*$  are seen for stations in Canadian Shield and relatively high  $t^*$  values in North American Cordillera. We will discuss a detailed comparison to surface wave Q results.