

**Regional Differences in Absorption of Seismic Waves  
in the Upper Mantle as Inferred from  
Abnormal Distributions of Seismic Intensities**

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**Abstract**

According to the idea that the abnormal distributions of seismic intensities observed in Japan are mainly due to the effect produced by regional differences in absorption of seismic waves, a region of increased absorption has been located in the upper mantle under Japan outside the zone of abnormal intensity. This absorptive region appears to be related to the distributions of topography, earthquake foci, volcanoes, gravity anomalies, heat flow, etc. A preliminary estimate of the  $Q$  value contrast between two paths crossing highly absorptive and less absorptive regions indicates that the maximum ratio of mean  $Q$  values between two paths reaches 10.